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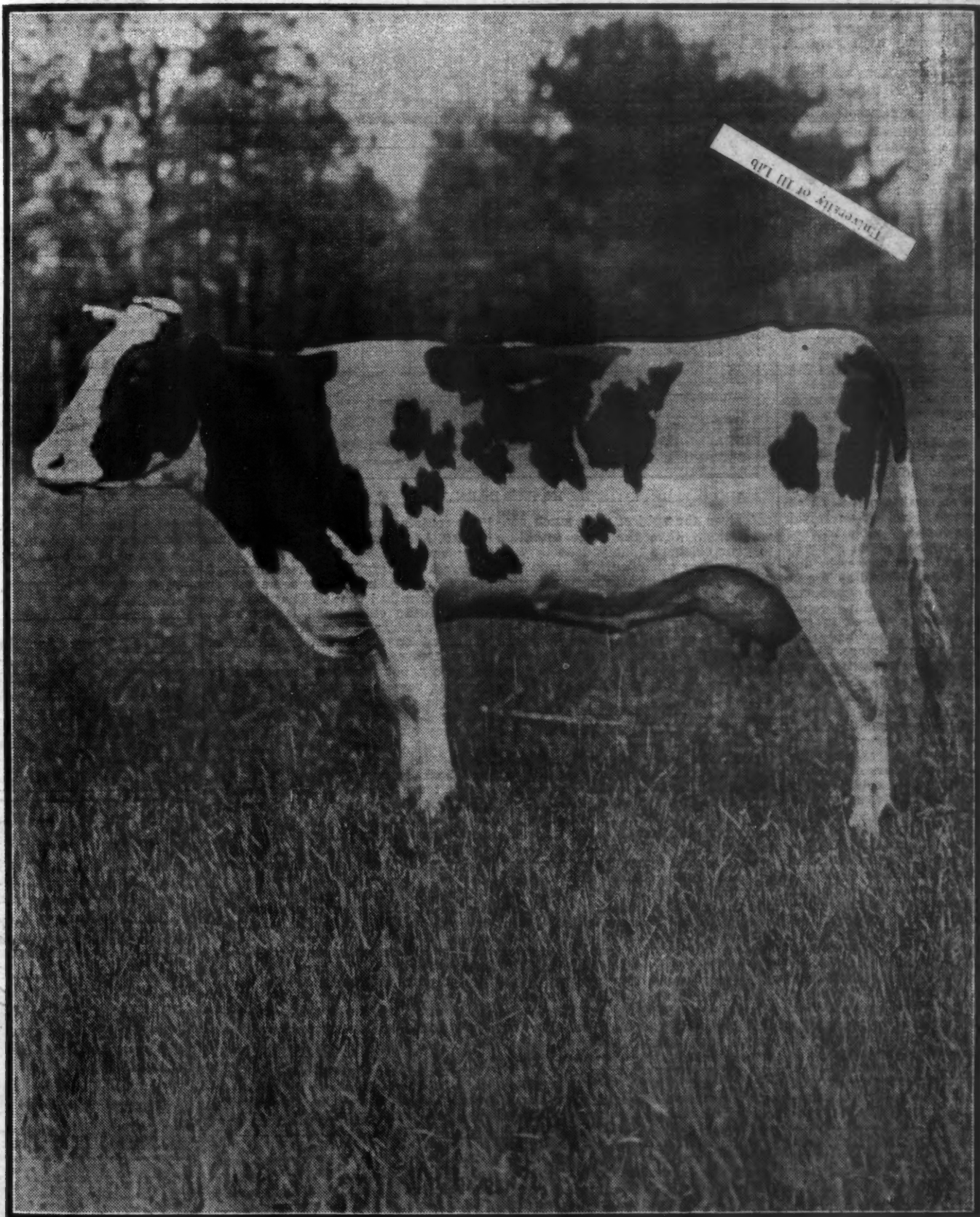
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OLDEST AGRICULTURAL AND LIVE STOCK JOURNAL IN THE MISSISSIPPI VALLEY

Sixty-Seventh Year.

ST. LOUIS, MO., MAY 28, 1914.

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IN THE POULTRY YARD

SECRET OF SUCCESS WITH POULTRY.

Success in the poultry business is spelled in the one little word, "work." I am just a beginner, you might say, in the business, but I have learned enough to know that you can't raise chickens and produce eggs on a profitable basis by going to the field or shop at sun-up and staying until sun-down. Chickens need attention. You can't expect a piece of machinery to give good results unless it receives careful attention. The same rule applies to chickens. The way to gain results in the poultry business is to form a close relationship with your chickens. You can't go into your parks and scare your chickens half to death and expect them to lay dozens of eggs each day. A hen that is your friend will properly repay you for all your trouble and expense, says Farmer's Guide.

A year ago this month my uncle and myself decided that we would go into the chicken business. We, of course, built up air-castles like most anyone else that starts into the business as a business. Some of those castles have exploded, but the poultry business without plenty of enthusiasm isn't worth a penny as an investment. We started with a little over ten acres of ground, a little experience and very little capital. We bought four large incubators and started on our way, buying all of the eggs that we set. This proved rather costly in the end as we were compelled to pay rather high prices for eggs with any guaranteed fertility. We hatched several hundred chicks but like the majority of the chicken raisers, we started a little too late and the result was that most of our chickens were hatched too late in the season. We didn't make the necessary arrangements to care for the baby chicks after they were hatched and consequently the per cent of mortality was quite large.

We managed to pull through with about 500 chickens. The majority of them we sold at market prices as we realized they would not do us much good as layers for they were hatched too late. We retained about 200 pullets with several nice cockerels and the pullets are now doing duty for us in our laying house. This laying house 50 by 16 feet and affords ample room. Our laying stock was placed in this house along in September and they have not seen the ground since. Chickens with wet feet and resulting colds won't lay eggs. These laying chickens are cared for as if they were members of the family and, in fact, they are. The house is modern in almost every way, there being 36 feet of open space on the south side to give them fresh air at all hours of the day and night. Only on cold, stormy nights are muslin windows lowered over this open space. The pullets are as happy as can be, singing from morning until night, and they are beginning to lay eggs in large numbers.

We have adopted a schedule for caring for them which runs something as follows: The first thing in the morning they are given fresh water. On cold mornings this water is put into the drinking fountains hot. Chilled chickens can't be expected to do much. There is generally grain in the six inches of litter to start them off, but if this supply is low, some cracked corn and wheat is scattered in the wheat straw which forms the litter and that keeps them busy until noon, when a small quantity of steamed oats is fed. About 10 o'clock another supply of fresh water is given and this is replenished again at noon. In the meantime the dropping boards have been thoroughly cleansed. Cleanliness is a big item in the poultry business, in fact, I believe it is more important than the feeding. There is no need to worry about lice if your house is kept clean. Of course, we have dust boxes in the house which give the pullets opportunity to take a bath at their pleasure and they certainly do enjoy it. Dry mash is kept before them all the time, as is grit of various kinds. This mash contains all the ingredients necessary



to make an egg and the hoppers are never allowed to go empty. In the evening a heavy supply of cracked corn and wheat is fed in the litter and when the hens go to bed they have full crops. A hen that "retires" for the night with an empty crop can't be expected to lay an egg the next day. Eggs are gathered two or three times a day and that way they are kept clean, and there is not much chance of them being broken in the nest.

This seems like a lot of work and it is, but it can be done in a few hours each day and we find that it surely pays. I don't think we have had over one or two sick chickens all year and they were weaklings. The person who says there is no money in chickens has



IN THE BARNYARD.

not given the subject very much consideration. Give the same attention to your chickens that you do to your fine stock or other work and you will find a nice little income rolling in each year. It is our plan to erect two more large laying houses this season as we expect next fall to have not less than 1,000 pullets for the laying houses. You can bet your life that there is money in the poultry business but you can't expect to get it unless you do some work.

BARN YARD CACKLES.

Don't think because you haven't a drove of chickens by the middle or last of April that it will be useless for you to try chickens this season. May is the very best month in which to have chicks come off, for the ordinary farm wife.

Quite a good many depend upon the old hen as incubator and brooder. Usually the old hens are wiser on this subject than their owners, refusing to set until it seems terribly late; but don't worry. The medium hatches will not leave much bad weather to contend with and will be able to grow as fast as weeds, they will be worth more than earlier hatches that have become stunted.

Unless well prepared to care for chicks, very early hatches are a great trouble; too much cost for the little gain over the medium hatches. Don't understand I say a thing against those who are prepared for it to have as many and as early chicks as possible; there is profit in early poultry, but because one is not prepared to have these early ones, is no reason for becoming discouraged.

May chicks, if kept growing rapidly, will be matured before winter; the pullets should be laying on or before Christmas, and this is very good work in the poultry line.

It is more important having the chicks well hatched; then give the right sort of feed and care to induce a vigorous, steady growth. Poultry

that has stamina enough to withstand all ordinary and some extraordinary ills is the kind of poultry that pays. To get this kind there must be a vigorous parent stock.

All poultry crave salt—require some if they do their best. It is so cheap, then why do we not furnish it often? Because it is unhandy to give them. It is not safe to throw it out like grain, or give in handfuls as we do to other stock, because some of the poultry will gorge themselves, thinking it a new kind of food, or else mistaking it for grit, with fatal results. But mix in with mash, or in table scraps it is eaten without any bad results at all and fills a want if nothing else.

Another cheap thing so many times scantily furnished or not furnished at all is sharp grit. It would seem that a thing so easily provided would be in constant supply, but quite often these are the very things left undone.

Water in fresh and constant supply is another thing that must be supplied if chicks do well, or if eggs are furnished as they should be. An

egg contains quite a large per cent of water, hence water must be supplied in plenty.

Fresh buttermilk is recommended for diarrhoea in chicks, some saying it will cure bad cases. That it is fine for growing chicks and laying hens, I know, and as it is a supply usually on hand on all farms, it should be given freely.

During hot weather use care in keeping vessels sweet, and in placing same in the shade. Always give it before it becomes popping sour.

Bonny clabber, as we call it, meaning sweet or just turned clabber, is as good as meat substitute for chicks and hens, as can be found.

Don't use grease on the setters, on or about the eggs or nest boxes for setters. This may seem superfluous, but almost every season some one spoils one or more clutches of eggs through the wrong use of grease or coal oil.

Use fresh insect powder, tobacco dust, cedar tea or a combination of these to rout lice and mites about the setters and their premises.

Have a separate place for the setters, even if it is nothing but an organ or piano box fixed over for them. Keep dust for a bath, whole corn, fresh water, good grit and either cut fresh grass or clover or alfalfa shatterings in reach of the setters.

Use good and plentiful nesting; then should an egg become broken, wash the soiled ones carefully in warm water, removing the soiled nesting and making things as tidy as possible just as soon as the damage is discovered.

Use quiet hens and disturb them just as little as possible; the less they are bothered from any source, the better per cent and the stronger hatch will be had. Fussing over and among the setters will surely bring bad results.

Keep the little fellows warm and dry for 36 hours, and don't give feed or water until then.

The feed for little chicks should be

wholesome and dry; at least my own chicks thrive much better since I have discarded all mashes, dry or sloppy, giving only dry rolled bread crumbs, oat meal and whole grain just as soon as they are a few weeks old. This takes more grit and requires that water and milk be always on hand; but a sick chick is a rarity with us.

Table scraps, left over food impossible to be made over for the table, is excellent for poultry; but if soft it is always given to the hens or feathered chicks—never to little ones.

FEEDING YOUNG CHICKS.

We do not feed little chicks before they are two days old, but from the beginning give them water. During this period the hen is given her food out of reach of the little ones. The first feeds are given sparingly every two hours, and are usually wet mashes.

After the third day, we feed some of the cracked grains, a little at a time, till, at the end of the fifth or sixth day, we are giving only two feeds a day of the mash, and three feeds of the cracked grain. Occasionally we give a little whole wheat, and by the end of eight weeks we are feeding most of the grains whole. If the chicks are unable to get worms or insects in sufficient quantities, they must be supplied with a substitute, such as milk or beef scraps. Green feed is given in the form of finely-chopped lettuce, a piece of potato or turnip or mangel when they are not able to run outside on the grass.—C. E. Brown, Poultryman, Northwest Experiment Station, Crookston, Minn.

BETTER POULTRY HOUSES.

The University Farm poultry section is issuing plans for use in building a model poultry house for 100 hens. The house is adapted to Minnesota conditions and is progressive in construction and cost. A comfortable and durable house may be built for a minimum figure, or a more expensive house may be constructed which will ornament any grounds and look well enough to be the companion of the best model farm buildings. It may be increased in size gradually without wasting nails, shingles, or building paper, and is very easy to construct. It provides accommodations for both the breeding and laying flocks. The plans are mailed at cost—ten cents—or with full specifications the price is 25 cents.—A. C. Smith, Poultryman, University Farm, St. Paul.

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CREAM of the DAIRY NEWS

DON'T NEGLECT THE CREAM.

The goose-that-laid-the-golden-egg stuff is old, but it contains a truth that is just as much alive today as it ever was. If some one could get up a farmer-that-delivered-the-good-cream-stunt that would become a country-side proverb, it would beat the golden-egg goose in filling the cash box of the farmer. The fact of it is, the geese that will figure in the coming summer's dairy output will be those farmers who persist in sending old, stale, bad, sour, disreputable cream to the creamery. There is likely to be no "golden egg" coming their way, says Hoard's Dairyman.

The indications are that this country of ours can and will get all the low grade butter it can handle from foreign sources, at prices that may make our farmers weep for the good old times when anything in the shape of butterfat went, so long as it could be churned into some kind of butter.

We are looking for some wide differences in prices between fancy and poor butter this summer. Some creameries, big and little, who have persistently argued themselves into the belief that the sum and substance of their prosperity lay in quantity rather



short of forage, the oats and peas will supply this need, and also reduce the amount of grain necessary to be fed.

The expense in harvesting and putting before the stock is very much less. If the grain is the chief item and the straw is needed, as on most farms, for bedding, then it will pay better to thresh at least a portion of the crop, growing the oats without the peas.

When is the best time to cut oats to feed for milk?

When the head is just beginning to form; then the most nutriment will be in the straw. Later on light oats will form, which shell out and are not readily eaten.

What is the value of pea and oat hay, sowed half and half and cut during the milk stage?

If cut when the peas are in bloom

The shredder will leave the stalks in a little better condition, but will take more power to operate than a plain cutter, and cost slightly more. Whether the advantages are enough to compensate for the increased expense and labor is a matter that each one must determine for himself.

Is there a difference to dairymen in the value of late-cut and early-cut hay?

There is a decided advantage in early-cut. If the hay is cut when not more than half the plants are in blossom it will produce as much milk as the same hay standing until it is mature, with one pound of grain a day per animal added.

HOW BUTTER IS MADE ON A GERMAN FARM.

An average of a thousand quarts of milk are taken daily to the farm-creamery and there subjected to a series of operations. When still-warm, cow's milk contains different gases which have a bad effect on the keeping quality of it and must therefore be removed. This is done by running the milk over a cooling device. Freed from these undesirable gases, the milk is heated up to blood-tempera-

ent in the cream in an undercooled condition to solidify with the formation of small granules of butter. The churn is turned at a moderate speed for about 40 minutes. With the formation of small granules, the speed is lessened which causes the small granules to form larger grains.

The butter is taken from the liquid by means of a sieve, washed carefully with cold water and is then placed on the butter-workers. The butter worker frees the butter from the rest of the adhering liquid and makes it ready for use.—Ernest Artschwager, Colorado Agricultural College.

MASSACHUSETTS MOVES.

A bill has been introduced in the legislature of Massachusetts providing for county agricultural work in every county in the state. The general plan proposed provides for financing the work through county taxation, through special contributions for the work, and through state support.

Through local county taxation an amount of not less than \$1,000 per year is to be provided, and not more than the amount raised annually by contribution or membership fees. The state will then contribute to each county where the work is organized an amount not to exceed one-half of that raised from local sources, both by taxation and by contribution or membership fees.

The bill provides for an appropriation for each county from the state of



A PROFITABLE INDUSTRY.

than quality, may find a day of reckoning ahead.

We further believe that good butter will not suffer in comparison anywhere near as much as poor butter. Undoubtedly, lower prices all around will prevail, but the creameries who will receive only good cream and make a fine quality of butter will suffer the least.

Where shall improvement begin? With the creamery or the farmer? It is a little like the question, "Which happened first, the egg or the hen?"

As we are writing primarily to farmers we suggest that every farmer appoint himself a committee of one to see to it that all the cream he delivers will go into the highest grade. This will make him money and will encourage the creamery management to adjust their affairs in such a way that they will be able to refuse the bad cream.

Every farmer should begin to plan now, at once without delay, to furnish only the best of cream. If he has financial interest in his local creamery he should see to it that the butter-maker and manager adjust themselves to the same idea.

FEEDS FOR MILK.

How can we most profitably provide suitable food to keep up the flow of milk in late summer and autumn?

Early-planted sweet corn and Hungarian grass, with more corn and pumpkins until the silo is ready, are the best.

Which is better for milk cows, sowed corn or green oats and Canada peas?

The latter will give the best results. Corn should be thinly planted so that it matures, rather than thickly sown, to give good results as forage.

Which is the most profitable, to raise oats and peas for cows, or sow the oats for threshing?

This will depend very largely on how much coarse fodder one has. If

som, and the oathead has just begun to form, they are a more valuable milk-producing food than clover.

Are cornstalks good for a new milk cow, and what quantity of corn and oats mixed with oilmeal does she need?

Cornstalks are good, but some other roughage, such as clover or mixed hay with roots, should also be fed. In the absence of other roughage, perhaps as good a ration as could be arranged with the grains mentioned would be four pounds of oats, two of corn and one of oilmeal.

The addition of one pound of cottonseed meal or gluten or distillery grains would be an improvement. The oats might be increased, but not the cornmeal.

What advantage is gained by feeding corn on stalks over husking and then feeding the nubbins?

It is wasteful and uncertain to feed cows their corn on the stalks, unless they are fed in the silo where the amount is uniform and all can be digested and assimilated. The latter is the profitable and economical way to feed the grain. It will cost at least one-tenth the value of the crop to husk it and at least another tenth to grind it.

This will make one-fifth the value of the grain in preparing it for the cows, not one whit better than when it comes from the silo. The husked corn should contain something better than nubbins, which amount to very little under any conditions.

Which will produce the more milk, sweet corn or field corn, when cut green in the field?

The sweet corn, because it contains a larger amount of sugar. This is not true when this corn is placed in the silo. Unless the corn is very ripe before being placed in the silo, the increased amount of sugar will turn to acetic acid, and the ensilage will be too sour for good results.

Which would be more profitable for a small farm with one or two cows, a cornstalk cutter or a shredder?

ture and is then conducted through a pipe into a separator, where, by means of centrifugal force, the milk is divided into the cream and the skim-milk.

Leaving the separator, the cream enters the pasteurizer, a device, consisting of a double-walled vessel which allows free circulation of superheated steam between the inner surfaces. Inside the vessel is an agitator which, when turned at a speed of a thousand revolutions a minute, causes the milk, which enters the pasteurizer at the bottom, to pass along the heated surface as a continuous thin layer. At the exit of the apparatus is a thermometer which indicates the temperature the cream has acquired by passing through the cylinder; the temperature being regulated and kept constant by regulating the steam supply. The cream is now cooled to 11 degrees C. and stored in large vats.

To set up the right kind of fermentation, a starter is next added to the cream. Fermentation is best when the liquid has a constant temperature of 14-14 degrees C. for about seven hours, the temperature is then lowered to 11 degrees C. and remains in this condition for 10 hours longer.

The cream has now obtained a slight acidity and is ready to be churned. The object of churning is to cause the butterfat which is pres-

\$5,000, but the county must provide from local sources twice the amount received from the state. Should the full amount of state appropriations be requested, there would thus be provided \$15,000 for the work in each county.

A NEW JERSEY RECORD.

Editor Rural World:—We believe one of our cows has broken another Jersey record, having given in month of April, 30 days, 2095 pounds 3 ounces milk. She gave in March, 1989 pounds 3 ounces milk, making 4084 pounds 5 ounces milk for 61 days. She was retested each month. Her production in May again called for a retest and a tester was sent from the Connecticut College to do the retesting, he has just finished, and in the two days she gave 128 pounds 4 ounces milk, 6,215 pounds fat, equal to 7 pounds 5 ounces, 85 per cent butter in the two days.

We consider this remarkable work as the cow was only three years, eight months of age at commencement of test.

J. E. DODGE, Jr.

Hood Farm.

The imports of matches into China greatly exceed in value any other wood product. Most of the matches come in from Japan.

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Cattle

LOSSES OF LIVE STOCK.

The Bureau of Statistics of the Department of Agriculture has received estimates from its correspondents and agents concerning losses of live stock from diseases and from exposure during the past year, and their relative condition on April 1, from which the following summary is made:

Losses of Hogs.

The losses of swine from disease are estimated at 119 to every 1,000 hogs in the country, which exceeds last year's heavy loss of 110 per 1,000, and the average yearly loss in the preceding 10 years of 54.9 per 1,000. Probably more than 90 per cent of the loss was from cholera. The percentage of loss applied to the estimated number of hogs on January 1 indicates a total loss of 7,005,000 head, which, at \$10.40, the value per head on January 1, indicates a loss of \$73,000,000. The average weight of a hog on the farm is about 150 pounds, therefore more than one billion pounds of hog meat were destroyed by disease, mostly cholera. A billion pounds live weight produced nearly 800,000,000 pounds of dressed meat and lard. This amount would be sufficient to furnish every family of the United States (average, 4½ persons) about 40 pounds. If there had been no such loss, probably increasing scarcity of meat would have been largely prevented.

Third Epidemic of Hog Cholera.

The country is passing through the third serious epidemic of hog cholera of the past 30 years. The first period reached its climax in 1886 to 1887 when the loss amounted to about 134 per 1,000 head in one year. The second outbreak developed in 1894, and reached its climax in 1896 to 1897, when losses amounted to 144 per 1,000 head. The present extensive epidemic of hog cholera began to be serious in 1911; during the 10 prior years the loss of swine ranged from 45 to 58 per 1,000 per year; in 1911 it jumped to 89, then to 110 in 1912, and to 119 last year. It has thoroughly ravaged the heart of the hog-producing belt during the year just past. In the state of Iowa alone, losses amounted to nearly 1,800,000 swine, over a fourth of the entire number in the State. In many counties over half were lost, and in some townships over nine-tenths.

Losses Heaviest in Southern States.

The losses of swine from disease are usually heaviest in southern states and lightest in northern states. Estimates of losses have been kept for 30 years. The states showing the heaviest average yearly loss in these 30 years are, in their order, Arkansas, 119 per 1,000; Louisiana, 110; Florida, 109; the states showing the lightest losses are, Maine 19, Wyoming 19, New Hampshire 22. In Georgia the average is 94, in Alabama and Mississippi each 92; in Texas 66; whereas in New York the average is 26, in Michigan 34, in Minnesota 46, in North Dakota 31, and in Washington and Oregon 26.

Hog Cholera Losses Heaviest in Northern States in 1913.

The epidemic has abated somewhat in the past year, as compared with the preceding year, in most southern states but has increased greatly in the northern states. Thus, in Florida the loss has decreased from 170 per 1,000 in 1912 to 150 in 1913; in Georgia from 165 to 90; in Alabama from 110 to 100; in Mississippi from 154 to 104; in Kentucky from 95 to 90; in Missouri from 175 to 90; whereas in Iowa the loss has increased from 160 per 1,000 in 1912 to 255 per 1,000 in 1913, in Minnesota from 55 to 214, in Nebraska from 110 to 175, in South Dakota from 38 to 230, and in North Dakota from 20 to 75. The tendency of the three epidemics mentioned appears to have been, in a general way, to move as a wave from south and east to north and west.

Condition of Swine, April, 1914.

The condition as to healthfulness of hogs on April 1, 1914, was given as 91.6 per cent of normal, which compares with 91.4 per cent given a year ago and 94.4, the average of the past 10 years.

The number of breeding sows in the United States on April 1 is estimated

to be about 101 per cent of the number held a year ago, and about the same number as were held two years ago.

MAKING AND FEEDING SILAGE.

Silage during the last three decades has come into general use throughout the United States, especially in those regions where the dairy industry has reached its greatest development. Silage is universally recognized as a good and cheap feed for farm stock, and particularly so for cattle and sheep, are the observations made in Farmers' Bulletin 578 of the United States Department of Agriculture.

Silage is the best and cheapest form in which a succulent feed can be provided for winter use, continues the bulletin. An acre of grain can be placed in the silo at a cost not exceeding that of shocking, husking, grinding and shredding. Crops can

any of the hay crops, such as clover, cowpeas, or alfalfa.

Furthermore, corn makes an excellent quality of silage. The legumes, such as clover and alfalfa, are liable to rot unless special care is taken to pack the silage thoroughly and force the air out. The only objection which has been raised concerning corn silage is the fact that it contains insufficient protein fully to meet the requirements of animals to which it may be fed. The best variety of corn to plant is that which will mature and yield the largest amount of grain to the acre, since the grain is the most valuable part of the corn plant. The variety commonly raised in any particular locality for grain will also be the most satisfactory to grow for silage.

Cultivation and Yield.

In some sections it is a common practice to plant the corn a little thicker when raised for silage than

ferable to make it into hay or the silage made from clover as from other legumes has an objectionable odor, necessitating particular care in feeding to avoid tainting the milk. It does not pack so well as corn, so great care should be exercised in the tramping of the silage at the time of filling, and the depth of the silage should also receive particular attention. Clover should be chopped before siloing as a matter of convenience in feeding and also to secure more thorough packing, although it can be placed in the silo without chopping. Clover should be harvested when in full bloom and some of the first heads are dead.

Cowpeas, Alfalfa, and Soy Beans.

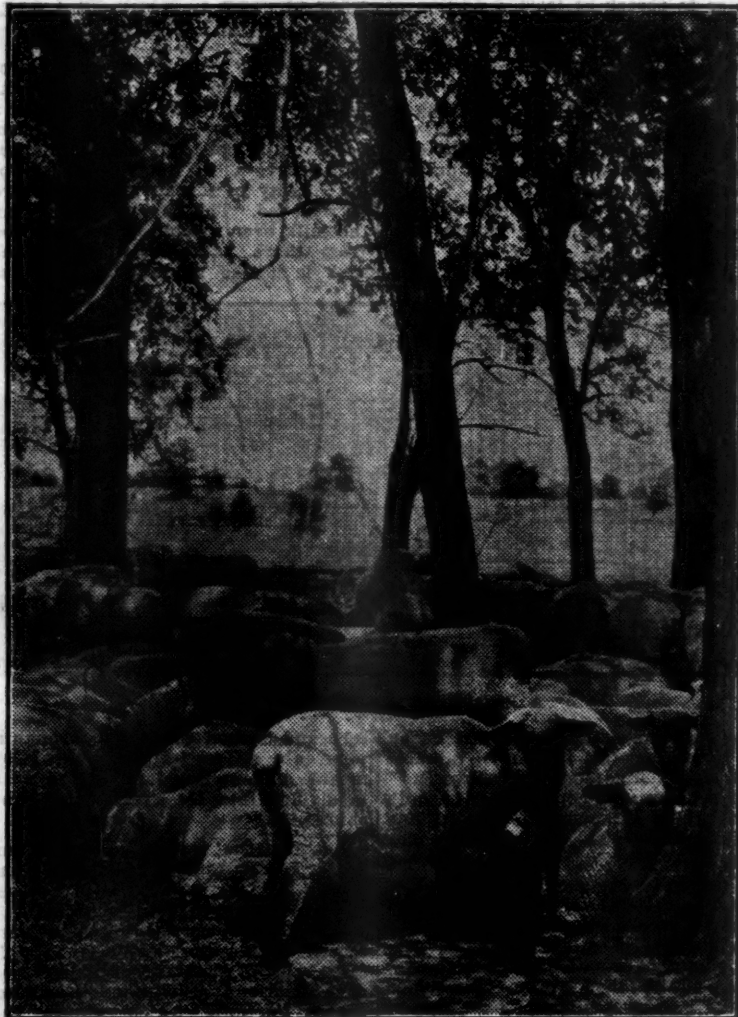
Cowpeas, alfalfa, and soy beans can be successfully made into silage by exercising the same precautions as with clover. They should be cut at the same time as for haymaking. However, it is ordinarily preferable, as with clover, to make them into hay rather than silage. The fermentations which take place in silage made of legumes causes a greater loss of nutritive material than with corn silage. Corn husks and pea vines from canning factories, beet pulp and other by-products are also used in certain localities for filling the silo.

Corn for the silo can be cut either by hand or by machine. Hand cutting is practiced on farms where the amount of corn to be harvested is so small as to make the expense of purchasing a corn harvester too great to justify its use. Hand cutting is slow and laborious and there are probably few localities now where the purchase of a harvester would not be a profitable investment.

There are on the market several makes of silage cutters that will give satisfaction. The capacity of the machine to be purchased is an important consideration which should not be overlooked. Many persons make the mistake of getting a cutter which is too small, thus making the operation of filling the silo very slow and interfering with the continuous employment of the entire force of men. It is better to get a machine large enough so that every one will be able to keep busy all the time. The larger cutters are equipped with self-feeders, a labor-saving device which the smaller sizes lack.

The usual length of cutting varies from one-half to one inch. The latter is considered a little too long, since pieces of this length will neither pack so closely in the silo nor be so completely consumed when fed as will the shorter lengths. On the other hand, the longer the pieces the more rapidly can the corn be run through the cutter.

In case the corn has become too dry or ripe before it is put into the silo, water should be added to supply the deficiency of moisture necessary to make the silage pack properly. Unless it is well packed the silage will "fire-fang" or deteriorate through the growth of mold. Enough water should be added to restore the moisture content of the corn to what it would be if cut at the proper stage. The water may be added by running directly into the silo by means of a hose or by running through the blower. It is claimed that by running it into the blower the water is more thoroughly mixed with the cut corn.



LIVE STOCK MOST PROFITABLE.

be put in the silo during weather that can not be used in making hay or curing fodder which is an important consideration in some localities.

A given amount of corn in the form of silage will produce more milk than the same amount when shocked and dried. There is less waste in feeding silage than in feeding fodder. Good silage properly fed is all consumed, and in addition very palatable. Like other succulent feeds it has a beneficial effect upon the digestive organs and some stock can be kept on a given area of land when it is the basis of the ration.

On account of the smaller cost for labor, silage can be used for supplementing pastures more economically than can soiling crops, unless only a small amount of supplementary feed is required. Converting the corn crop into silage clears the land sooner than if the corn crop is shocked and husked, and because of these advantages, silage, in the general opinion of dairy farmers has increased milk production per cow and has increased the profits per acre.

Corn.

In all parts of the United States where the silo has come into general use the principal silage crop is corn. One reason for this is that ordinarily corn will produce more food material to the acre than any other crop which can be grown. It is more easily harvested and put into the silo than

for grain. Weeds should be kept out, or they will be cut with the corn and may impair the quality of the silage. The amount of silage that can be obtained from an acre of corn will vary from 4 to 20 tons or more. A 50-bushel per acre crop of corn will yield about 8 to 12 tons of silage per acre, depending upon the amount of foliage and stalk that accompanies the ear. Southern varieties of corn as a rule carry a larger proportion of the plant in the form of stalk and leaves than do the northern-grown varieties. Corn should be harvested for the silo at about the same time that it is harvested for fodder.

Sorghums.

Sorghums, both saccharine and non-saccharine, are readily made into silage. On account of their superiority to corn as drought-resisting crops they are more commonly grown in those regions of the West where the rainfall is too light or irregular for a good growth of corn. It is important that the sorghums be harvested at the proper stage of maturity if the best results are to be secured. A mixture of corn and sorghum has proved satisfactory in some localities where the rainfall was so variable as to make the corn crop uncertain.

Clover.

Clover can be used successfully as a silage crop yielding a palatable product high in protein, but it is pre-

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Horticulture

CONTROLLING THE HESSIAN FLY.

By Leonard Haseman.

The Hessian fly is again attracting the attention of wheat growers, especially in the northwestern part of the state where in some sections a large majority of the fields are badly infested. The pest began its work last fall on the young wheat and passed the winter in the base of the wheat plants in the brown flaxseed stage. With the first warm days of spring the small mosquito-like flies escaped from these winter cases and laid eggs for the first spring brood maggots. These maggots are now nearly mature at the base of the plants. Badly infested wheat is turning yellow and falling. Between now and wheat cutting time a second swarm of flies will appear to lay eggs for another brood of maggots which will be full fed and pass the summer in the stubble in the flaxseed stage. From the middle of August to the last of September the third swarm of flies will emerge from these summer cases ready to lay eggs again in early sown wheat.

At this time little can be done to control this pest, unless the field be so badly infested that it is advisable to pasture it or plow it under and plant corn or some other crop. In some cases this may be advisable, but wherever the wheat is still green and has a healthy appearance at least a partial crop will mature and in such cases it had better be harvested. One must use judgment in deciding what to do with an infested field at this time.

The Entomology Department of the Missouri College of Agriculture at Columbia will examine samples of infested wheat and offer suggestions as to what had best be done with such wheat. One should collect samples at random and not simply the most badly infested plants, otherwise an examination would lead to wrong conclusions.

Badly infested fields which are permitted to ripen should be cut as early as possible and the wheat removed from the field. Then plow the stubble under at once and work the soil so as to completely cover all stubble. The fly passes the summer almost entirely in the resting stage in the stubble and if this summer's brood is plowed under or burned, the pest can be stamped out. Then next fall delay the sowing of wheat until the first or possibly the second week in October so as to escape those flies which manage to pass the summer. All farmers in an infested region should co-operate in this work to secure the best results. There are few pests of field crops which can be so simply and so effectively controlled as the Hessian fly.

DIE-BACK AND BROWN ROT OF PEACHES.

Have you seen lately, on your peach trees, twigs that were dead at the tip? Or twigs that looked fairly healthy except for dead or wilted leaves at the tip or along the sides? Or have you noticed anywhere branches bearing blighted blossoms? In the first two cases, the injury is probably due to "die-back"; in the third, to the brown rot fungus, says the Missouri State Fruit Experiment Station at Mountain Grove, Mo.

"Die-back" is a fungus disease of peaches, plums, cherries and apricots. It is common all over the United States. It occurs also in Europe. If weather conditions are favorable—a warm spell followed by freezing weather—the fungus, which has wintered over in diseased twigs and limbs, becomes active during the late winter and early spring. Continued changes from cold to warm, such as we have had this spring, are favorable to its further growth. It affects twigs and limbs of all sizes and may even cause cankers on the trunk. These injuries were formerly thought to be due to severe winter conditions or to sun scald. They have been proved, though, by work at the station at Mountain Grove, to be caused by a definite fungus parasite.

The disease can be controlled somewhat by fall spraying, but the best method, and the one to use now, is to cut out and burn all diseased twigs and branches. In doing this work,

look for wilted leaves, dead twigs, limbs bearing gummy cankers, and dead, shrunken spots on the trunk and larger limbs. Dead twigs usually show small black dots at the lower end of the dead portion. These contain the spores that spread the disease. Such twigs should be burned, no matter how small.

Failure to go over your trees and cut out all diseased places does not mean that they will all die, this year, or even next year, or the next. It does mean, that their lives will be shortened and that you will fail, even without loss from frost, to get the good crops you should have had.

Let us turn now to brown rot. At this time of year it occurs in two, possibly three, kinds of places; in blighted blossoms, in limb cankers and in mummied peaches of last year. Remove all of these and burn the cuttings if you want any kind of a chance in your fight against brown rot. The disease is spread largely by curculio carrying the infection from diseased spots and mummied peaches, hence control of the curculio by a spray of arsenate of lead properly applied tends to lessen the spread of this disease. So also the careful removal of "mummies" and diseased spots lessens the chance of infection.

In case of doubt send diseased material to the Missouri State Fruit Experiment Station at Mountain Grove, Mo. Their business is to help you. Their services are free.

SULPHUR ADVISED FOR POWDERY SCAB.

Growers of Seed Potatoes Urged to Use This Treatment in Addition to Formaldehyde.

On account of the possibility of infection with powdery scab, the United States Department of Agriculture is now recommending all potato growers to treat their seed potatoes with sulphur. This is made expedient by the fact that infected seed potatoes have been shipped out of Maine where powdery scab now exists. Recent tests justify the department's scientists in recommending a thorough dusting with flowers of sulphur after the potatoes have been cut, as a precaution against the disease, but the treatment is by no means intended to take the place of formaldehyde as a general disinfectant. The department advises the use of both formaldehyde and sulphur.

Before cutting, the potatoes should be soaked for two hours in a solution of one pint of formaldehyde to 30 gallons of water. They should then be allowed to dry quickly either in the open or while spread out on a clean floor. This is known to be effective against common scab and black leg, and should therefore be employed in all cases. Whether it is equally effective against powdery scab is doubtful and for this reason the use of sulphur is strongly advised in addition. The potatoes should be cut first and then dusted thoroughly with flowers of sulphur. A general use of this treatment is advised for Maine.

ORCHARD AND GARDEN NOTES.

Make frequent sowings of your favorite vegetables all season.

Any vegetable or flower seed may go into the ground before June 1.

Prepare the land well for melons. They should have warm rich soil.

Early sown spinach, lettuce, and radishes should be ready for the table now.

Grapes should be tied to the trellis and new shoots which crowd may be removed.

Mulch large trees or shrubbery which has been set this spring. It will help to prevent drying out.

Chicken wire makes a neat support for peas and pole beans and does not cost much more than brush.

Was a good bed of strawberries set out this spring? It may still be done, although rather late.

Lima beans may be planted late in May. The dwarf varieties are easier to grow and just as good as the pole sorts.

Tomatoes may be staked or grown on a wire fence. Trim to one or two branches. It is more work but larger and better colored fruit results.

Early Iris should be in bloom by

June 1. By a proper choice of varieties several weeks' bloom of these plants may be enjoyed.

Become acquainted with the many flowering shrubs and plants in bloom at this season of the year. There are many native sorts that could easily be moved to the home yard.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul.

BREAD AND MILK TREES.

From the Brazilian passata is obtained the street-broom material exported to every part of the world where streets are kept clean. In the bread-fruit the natives obtain a good article of food. The tree is large, attaining a height of 50 to 60 feet, and in the Pacific the fruit is used as we use bread, the tree being the maker of the islanders.

If a tree produces bread, so called, we should not be surprised to find one that gives milk, and such a one was discovered by Varon Von Humboldt in South America. It was called the palo de vaca by the natives, or "cow tree," and when the bark was pierced, the sap that looked and tasted like milk ran out in a clear stream, forming a delicious and nutritious food.

The tree is a variety of evergreen very common in the higher regions of Venezuela, and the milk not only looks like that of the cow, but tastes like it. The discovery was considered so valuable that attempts have been made to transplant it, but thus far without success.

JACKSON, MO., NOTES.

Editor Rural World: April was a wet month, first week in May also. Some fine weather since. Oats, wheat, grass and rye fields look fine. A large acreage of corn planted, some few have corn plowed over once. This was one time it paid to break corn land in the fall. Early Irish potatoes look fine now. Some one who read

my letter in the Rural World, received an inquiry from a merchant and farmer of Naylor, Mo., asking where he could get some of the famous Cape County Reid's Yellow seed corn, saying I see your name quite frequently in my favorite paper, Colman's Rural World. I enjoyed the welcome letter in Home Circle page of May 14. Mr. Whitacre has been a reader of and writer for the R. W. for a long time, one of the old writers, who now comes to visit the circle so seldom, where are they. May, lovely May, has for me sacred memories. My mother died in May, 39 years ago, leaving my father, four orphan children, me the second, only 9 years old. May 14th was my father's birthday, the 16th was the birthday of the founder and editor of Colman's Rural World so many years, the 23d birthday of Mrs. A. H. Wing, now Mrs. Mortimer, for so many years a writer for the Rural world. It was her that mentioned my first effort in Home Circle of long ago. Circuit Court was in session at Jackson the first two weeks in May grinding out the many cases, both civil and criminal. Next week common pleas court meets at Cape Girardeau. Among the cases are 22 divorce cases. A local paper says three pages of printed matter are given over to divorce cases which is probably the largest number ever given the court to decide in its history. Cape Girardeau is certainly holding up its ratio of one divorce to every five marriages. In reading the docket, has them equally divided, 11 men, 11 women. Causes given are drunkenness, non-support, abandonment, ill treatment, already had one living companion when I married them. Carrying on with other men or women. Why is this?

Jackson, Mo. W. O. PENNEY.

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A FINAL EQUATION.

By Robert Lee Campbell.

There is an infant born that dies,
Its soul goes straight to Paradise,
Its life was short, its mission's done,
And it a crown in heaven hath won.
The Lord's decree thou body learn,
"Of dust thou art, to dust return,"
And then we hear the infant's cries:
"Six feet of this earth makes us all
of one size."

There is a man like Lazarus, poor,
And thus he is no evil doer;
And then he knows the Lord hath said:
"In sweat of thy face shalt thou eat
bread."

His treasure's thus in heaven's vault,
Secure from thief and rust and moth;
And when at last this poor man dies
Six feet of this earth makes us all
of one size.

There is another, rich from birth,
Who knows no toil upon this earth;
His hands are soft and fear the cold,
The laborer's tools they ne'er did hold;
His wealth is vain and worse than
dross,
It must be hid from thief and moth,
But when at last this rich man dies
Six feet of this earth makes us all
of one size.

Another man did God create,
Whom all the world do now call great;
Although some great success he's won,
His praise will end when this life is
done;
For here we know we cannot stay,
And this great man must pass away;
And when he's dead we hear his
cries:
"Six feet of the earth makes us all
of one size."

Another man so stingy is
He'll take that which is none of his;
For worldly goods doth this man
crave,
But soon or late he will find the
grave;
And then his goods will all go by,
And in distress this man will cry;
He'll find like all the rest that dies,
Six feet of this earth makes us all
of one size.

And yet another, good and wise,
Is willing thus to sacrifice,
To heal a wound, to dry a tear,
And do something good while he is
here;
Although his fame is not so broad,
He's known as one who serves the
Lord;
He dies at last and Heaven sighs:
"Six feet of the earth makes them all
of one size."

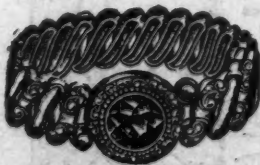
So now, kind friends, do His command,
And do what good on earth you can;
Obey the laws that He has given,
And trust your all to One in heaven;
This life is short, improve it well,
For when you'll die there's no one
can tell;
And this you know, when man dies,
Six feet of the earth makes us all
of one size.
Dirigo, Ky.

WATER PROOFING CEMENT.

Much has been written concerning
the water proofing of concrete, and
numerous patented or secret prepara-
tions are on the market for this pur-
pose.

I have tried out a number of meth-
ods for water proofing tanks, and
find that painting the inside with a
mixture of cement and water, so pre-
pared as to be about the consistency
of thick paint, serves the purpose
very well. I believe that if this is
carefully done and one or two coats
applied, the tank will be water tight
in every respect.

Again, a very simple preparation,



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one that has often been used, is a
mixture of alum, water and lye. This
is mixed in about the following pro-
portions: To five pounds of alum, add
two gallons of water and one pound
of lye; after this has been allowed to
stand for a little time it thickens and
should then be applied to the surface
of the concrete with a brush, several
coats being used. I can recommend
this as a preparation which will be
serviceable for water proofing con-
crete.—E. B. House, Colorado Agri-
cultural College, Fort Collins, Colo.

HORSEPOWER AND MANPOWER.

From experience with treadmills in
British prisons we know accurately
the mechanical equivalent of hard la-
bor. It is a climb of 8,640 feet each
24 hours. If the average weight of
a man is 150 pounds, he can do ap-
proximately 1,200,000 footpounds of
work each 24 hours.

A horsepower for 24 hours is ap-
proximately 48,000,000 foot pounds. It
would require 40 men to yield a con-
tinuous horsepower, and their wages
would be \$80 per day, or \$28,800 per
year. An electric motor to do the
work of 40 men would consume not
more than \$180 worth of electricity
per annum, and in many cases the bill
would be very much less on account
of better rates.

It is therefore obvious that men
were never intended for use as gen-
erators of power. When you have a
few machines to turn, bear in mind
that the electric motor will do as
much work for you for \$1 as the best
unskilled workman can do for \$1.50.

This "Silent Servant" is never sick,
never needs a vacation, and never
asks unnecessary questions. You
should apply some form of motive
power to the drudgery you find in
your everyday work, and thus make
life seem less of a burden.

COW FEEDING.

Cows do fairly well when fed with
nothing but alfalfa hay, but to obtain
the best results it should be supplé-
mented by corn silage or roots and
grain. In most cases we should feed
all the alfalfa the cows would eat up
clean and then a mixture of oats and
corn at about a rate of one pound for
each three and a half pounds of milk
produced.

If it is desirable to make the cows
do a little better work, one pound of
grain may be fed to each three
pounds of milk produced. In the ab-
sence of succulent feed it is well to
supplement the grain portion of the
ration with oilmeal, although at \$48
a ton it is rather an expensive feed
and perhaps may not be used to ad-
vantage unless the animals show a
tendency to be constipated.

Weekly Market Report

Live Stock Prices Off; Cattle, Hogs
and Sheep Are Lower—Demand
Moderate—Sales Fair.

CATTLE—Supply of beef steers
was about an average and run main-
ly to short-fed beefs, strictly prime
kinds being scarce. Trade was a lit-
tle slow getting under way. Once
trading got started, however, there
was a pretty fair movement of cattle
to the scales. Steers ranged from
steady to a dime lower for the most
part. Offerings included a train of
Kansas fed steers and a few loads of
Colorado pulp and meal-fed. The
Kansans sold at \$8.15, averaging
1121 pounds and the Colorados
brought \$8.65, weighing 1238 pounds.
Native steers around 1250 pounds
brought \$8.75, the latter being top
for weighty cattle. Yearling steers
were scarce and the prime light kinds
in good demand at steady prices,
mixed steers and heifers topping at
\$9. There was a fair clearance.

Heifer trade as far as the good
light-weight, finished yearlings were
concerned, held steady, buyers seem-
ing to want everything of the char-
acter that was offered. Medium to
common heifers were slow and easier
in spots. Straight heifers sold up to
\$8.75, Kansas heifers brought \$8.65
and prime native steers and heifers
mixed sold at \$9, as good a price as
was reached for the best last week.

There was another slow trade in
cows and the market showed no im-
provement over last week's lower
close. Packers were exacting in their
requirements and sellers had to work
hard to dispose of lower grades of
cows. The general market was weak,
though not lower.

Market was about a dime off from
last week's finish or 25@35c under
the season's high point reached some
10 days ago. Dry weather is ma-
terially curtailing the demand from
the country for stock cattle and feed-
ers as well. Until good rains come,
relieving the situation in local terri-
tory, there is but little chance of a
sharp betterment.

The estimate for the quarantine di-
vision called for 38 cars, but the
trains were late in getting in and
as a result the marketable supply for
the day fell under a dozen loads.
These were mixed offerings out of
Mississippi, Alabama, Arkansas and
Louisiana. Generally the butcher and
canning stock sold on a steady basis,
with packers and outsiders both fig-
uring in the bidding. A string of Texans
arrived about 3 o'clock, but sold too
late to get in the paper.

HOGS—The market opened on a 5
@10c lower basis, but the general
trade was 10@15c lower than the Sat-
urday market and the close was 15
@20c lower in many places, but the
close found practically all of the good
hogs cleaned up; however, there was
some pigs and lights still unsold at
the close.

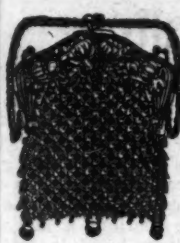
A single load of medium weight
hogs sold to one of the local butchers
at \$8.45, which was the top of the
market, while the bulk of the offer-
ings went at \$8.25@8.35. The top
was a full dime higher than any of
the other western markets, as the
highest price in Chicago was but
\$8.35 and none of the other markets
were able to reach that figure.

A good lot of hogs sold at \$8.40,
which was 5c better than the best
price in Chicago, which makes a pret-
ty good showing for this market.
What hogs shippers and butchers
were willing to purchase found a
ready market at \$8.35 and better, but
they insisted on purchasing only the
strictly good kinds, so that all others
had to go to packers at \$8.20@8.30,
with the rough packers at \$7.75@8.00.
Some plain light-weight mixed hogs
went at \$8@8.15.

Pigs and lights were rather slow
sale and prices were irregular. Best
offerings of lights weighing less than
165 pounds sold at \$8.15@8.35; fair
grades, \$7.75@8.10; best pigs under
125 pounds, \$7.60@8.00; fair to me-
dium kinds, \$7@7.50, and the com-
mon ones under \$7.

SHEEP—The trade was inclined to
be slow, with prices mostly 15c low-
er, but still in places the loss was as
much as 25c. It was well on toward
noon before many spring lambs were
sold, as buyers and sellers were un-
able to get together. Buyers were not
just certain for quite a while on
what basis they wanted to do busi-
ness and so held back their bids for
some time.

The best of the lambs received from
Tennessee sold at \$9.50, while other
good springers went around \$9 and
fair grades \$8@8.75, with the culls
under \$8 and extremely slow sale.
Three loads of clipped western lambs
fed in Audrain county, Mo., that av-
eraged 85 pounds, sold at \$8, which



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for promptness. Send name.
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was the highest price of the day for
clipped lambs. Others went at \$7.70
@7.90.

Practically all of the mutton sheep
went to the slaughterers at \$5.25, but
if fat they found ready sale at this
price. Plain ewes sold around \$5 to
the slaughterers. Choppers and good
stockers brought \$3.85@4.35, plain
stockers \$3@3.75 and the bucks \$4.50.
Bucks were plentiful and practically
all of them went at \$4.50. Some sheep
from Tennessee sold at \$5.50.

HORSES—There was a good de-
mand from the eastern sections and
these buyers took their kinds at val-
ues on a good steady level with last
week. The demand came largely for
the good-quality chunks, and these
brought highest values. There was
also a good call for good-quality types
of good work animals. There were
not as many southern purchasers on
the market as usual and the market
was on a slower basis all through.
There was not much trade in these
animals.

MULES—There was a little better
trade in mules—that is, in the good-
quality types. These kinds were sell-
ing well as compared with previous
weeks and shippers seemed satisfied
with their sales on all these kinds.
There was practically no demand for
the common kinds of mules.

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Geo. A. Cook, 123 W. 9th St., Kansas City, Mo.

C. J. Broughton, 112 W. Adams St., Chicago, Ill.

160 ACRES FARM IN WESTERN CANADA FREE



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Writes a regular subscriber, who has read it for many years, of
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The Pig Pen

WHEN THE PIG ARRIVES.

Writing on the coming of the pig, a contributor to Farm, Stock and Home says: When the time approaches for the pigs to arrive, we are on duty. The yards and pens are under careful scrutiny most of the time. When the sow begins to paw the bedding into place and carry bits of straw in her mouth, it is time to see that everything is in order.

While we are trying to give our method as simply as possible, we wish it to be understood that it applies to gentle sows only. Vicious or wild sows can not be handled by the same methods as gentle sows. We are handling sows that show no uneasiness if we enter the pens at any time. So, when the sow is ready to make her nest, we give her—now please be seated for this shock—a nice big lot of straw.

She Glories in a Big Bed.

Instead of scratching around at bits of straw and worrying about the lack of material for the nest, she works over this big bed, pats it here and there and moves fragments from one place to another with evident satisfaction. Soon she lies down quietly and awaits her labors in content. When the pains become regular and while she is quiet, we remove most of the straw.

It has served the purpose of making her quiet and happy. Now she will not notice that part of the nest is gone. Its removal, of course, is to les-

the blanket. If the mother has been handled with gentleness as in the case of this young sow, she will not be disturbed in the slightest degree, but will lie quietly sometimes for hours after her labors are over.

How to Remove the Fangs.

The next task in order after the pigs have gained strength enough to begin fighting for nipples is to remove the four needle like fangs, which will be found, two in the lower and two in the upper jaw. For this purpose we use a very small pair of plated pliers about four inches in length, with long pointed jaws. We place the pigs in the box, taking out one at a time.

After the fangs have been removed, return them to the nest in order not to mix them up. If a careful and dexterous assistant is not at hand, we handle them alone by placing the pig under the left arm with his head in the hand. We place the pliers on the lower tooth first, close to the gum. It should be taken firmly with the pliers and always broken in toward the tongue. Never outward.

The pig is then turned on his back, and the process is repeated on the uppers. To some this operation may seem needless and cruel. We have never had any bad results from the process and know we have avoided many runts and sore-mouthed pigs by its use. Suffice it to say it is one of the things we consider necessary for us to do. That is what we started to tell, not what others should or must do to be successful.

While the weather continues extremely cold, the sow and pigs are kept covered with a blanket, if other

The Shepherd

SHEEP AND WOOL CONFERENCE.

Improvement of Farm and Ranch Methods, Standardization of Wool Clip and Prevention of Losses to Be Discussed.

The Secretary of Agriculture has issued a call for a public conference of persons interested in the sheep and wool industry, to be held in Washington, June 2, 3 and 4. Among the topics suggested by the Secretary for discussion are the manufacturing value of American wools; the improvement of farm and ranch methods of handling wool; the possible adaptation of foreign methods to American conditions; the standardization of the wool clip, and the prevention of damage by dogs and predatory animals.

The high quality of American wools, when properly put up, is generally recognized by our manufacturers, but so little attention is paid to the care of American wool at shearing time, that it usually sells for less than its real value, and frequently suffers by comparison with foreign wool. Such practices as the indiscriminate sacking of wool regardless of kind or condition, the use of improper twine, and the use of insoluble paint for marking sheep, cause really unnecessary expense and loss in manufacturing, which has been variously estimated at from 5 to 20 per cent of the original value of the wool, and for which the producer must pay by being compelled to accept a reduced price.

The damage done the sheep industry by predatory animals in the Western

Out of stretchy Sows and 1000 lb. Boars. It is your move. Buy them and win. J. F. Vossing, Box 9, Alton, Ill.

Better Values

Model	Price
B. M. V., 4-cylinder, 5-passenger	\$400
Regal, 4-cylinder, 5-passenger	450
Studebaker, 4-cylinder, 5-passenger	500
Mitchell, 4-cylinder, 5-passenger	550
Chalmers, 4-cylinder, 5-passenger	600
Mitchell, 4-cylinder, 5-passenger	650
Studebaker, 4-cylinder, 5-passenger	700
Mitchell, 4-cylinder, 5-passenger	750
Everitt, 4-cylinder, 5-passenger	800
Carter Car, 4-cylinder, 5-passenger	850
Mitchell, 4-cylinder, 5-passenger	900
Mitchell, 4-cylinder, 5-passenger	950
Everitt, 4-cylinder, 5-passenger	1000
Mitchell, "Little Six," 1913	1050
Mitchell, 4-cylinder, 5-passenger	1100
Haynes, 4-cylinder, 5-passenger	1150
Oldsmobile, 4-cylinder, 5-passenger	1200

Terms: A reasonable cash payment, balance to suit.

Weber Implement and Automobile Company, 1200 Locust Street, St. Louis, Mo.

Only four blocks North of Union Station.

wools and wool fabrics, which shows the advantages of proper preparation of wool for market, and market requirements. This collection will be on exhibition during the conference.

METHODS OF SHEARING.

While it is impracticable to tell exactly how to shear a sheep, there being several methods of procedure, the following precautions are worthy of mention: The sheep should be handled humanely and held so that they will struggle as little as possible.

The skin should be kept stretched beneath the shears, to avoid unnecessary cutting. Special care should be taken in shearing the ewes about the udder and the ram about the sheath.

The shears should be kept close to the body of the sheep and not allowed



A FEW GOOD PORKERS.

sen the danger of little ones being smothered in the straw. For the purpose of illustration we will say the date of farrow is on or near March 15.

At this season of the year the house in which it takes place, for the most certain results, should not be below freezing. The chances are if it turns suddenly as cold as it did for a few days following that date in 1913, the house will be far below freezing on the average farm. At least it was so at Prospect Farm.

An Unexpected Cold Snap.

One morning the mercury registered as low as 25 degrees below, and we found Winona 3rd making preparations to farrow a litter of 12. Inside her house the walls were covered with frost, outside the wind was howling, the trees popping and the ground cracking in long zigzag lines about our path.

We had a box ready, about 10 inches high by 18 inches square; in the bottom we placed about two inches of sawdust, and over this a piece of woolen blanket was laid to cover the dust, come up on one side and fold over the top. As fast as the little fellows arrived, we placed them together in the box, and the heat from their bodies under the blanket soon had the air warm and cozy under the blanket.

When the last pig was placed in the box, the soiled bedding was carefully removed, and dry straw was put in its place. By this time the first pigs placed in the box were dry, and one or two were placed back in the nest to begin nursing in order to reassure the mother and keep her quiet.

A light firm blanket was then placed over the mother and the pigs. As soon as the pigs were all dry, they were all returned to the nest under

duties do not prevent us from being close at hand. If so, the pigs are returned to the warming box and only taken out long enough to nurse every hour and a half or two hours, or until the weather moderates enough so there is no danger of chilling.

If we keep them strong and growing until they are three days old, we feel quite certain that we will raise the whole litter. We never allow the bedding to remain damp and never use oats or barley straw for bedding, considering rye straw the best, but most anything else is preferable to oats or barley.

As soon as the pigs are old enough to run out of the nest and begin to explore the pen, they should have a sod of fresh earth placed where they can work at it at will. Dirt seems to be the first food they crave. We think it very important for them to have fresh earth instead of the filth they will pick up about the pen.

ECONOMICAL PRODUCTION.

By mixing suitable rations of farm feeds and by-products and buying the grain foods necessary to supply what is lacking, a feeder can increase the feed and grow a correspondingly greater number of hogs and produce more pork at less cost than if fewer hogs are kept and fed exclusively on farm feeds and by-products.

For example, many dairy farmers grow their pigs on an exclusive diet of skim milk and get a fair growth. This practice is a great waste of feed. It furnishes more protein than is needed and lacks carbohydrates and fats. More satisfactory results might be obtained by keeping a few more pigs and buying some grain feeds to balance the rations.

range states, and by dogs in the farm states, will be a very important subject for discussion at the conference. In some western states the number of predatory animals appears to be decreasing, but in others these pests are increasing in spite of growing settlements, causing a loss of 10 per cent of the sheep and lambs in some sections. Dogs in farm states cause irregular losses among flocks of sheep, amounting in some cases to complete extermination. There is no doubt that the lack of control of dogs in farm states is the principal hindrance to the development of the sheep industry in those regions, and a survey of this situation recently made by the Department of Agriculture indicates that if there were proper control of dogs, the sheep population of the farm states could be doubled, without displacing any other animals on farms. The effect of such an increase on the country's meat supply would be pronounced, as sheep in farm states are raised principally as meat producers.

Various agencies have been for some time engaged in propaganda work to effect an improvement in wool handling and sheep husbandry, and this conference is called by the Secretary of Agriculture to co-ordinate such efforts, and give an opportunity for the formulation of policies of national scope, which will tend to place the sheep and wool industry on a more stable basis.

Much interest has already been manifested, and a large attendance of representative wool growers, sheep breeders, manufacturers, and others interested in the sheep industry, is expected.

The Animal Husbandry Division of the Bureau of Animal Industry has made an educational collection of

to run off at a tangent, as this makes necessary a second cutting of the wool. The fleece should not be broken, but kept entire throughout the operation.

After removing, it should be spread out in a clean place, cut down, and as much as possible of the foreign material thrown out. The tags should be separated from the remainder of the fleece and placed by themselves.

Loose parts of the fleece should be placed in the center, ragged edges turned in, then the fleece should be rolled up, cut side out, and tied with appropriate twine. It should not be rolled too tightly, and too much twine should not be used. Once around the fleece each way is sufficient.

Wool boxes should not be used for tying. Their use makes attractive fleeces, but the wool is tied up too tightly, and wool buyers discriminate against it in this condition.

It is important that the right kind of twine be used. A light, smooth hard twine should be used that will not become entangled in the fleece, and leave fibers in the wool. Sisal is very objectionable from this standpoint. The fiber from this twine gets into the wool and is woven into the cloth.

It will not take the dye, and consequently it must be picked out by hand. The use of sisal has caused a loss of thousands of dollars, and many buyers refuse wool that has been tied with this twine. Others cut the price from 4 to 5 cents per pound for its use.

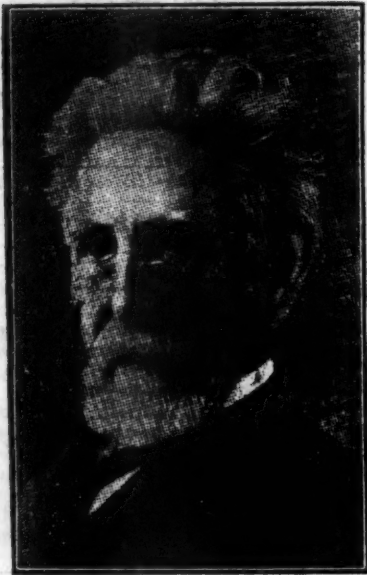
Much wool twine, which is objectionable in no other way, is much coarser than is necessary. Linen and paper twines are excellent for tying, the objection to paper twine being that it is stiff and difficult to knot. A string 7 and 8 feet long is sufficient for tying an ordinary fleece.

Colman's Rural World

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Norman J. Colman,
First U. S. Secretary of Agriculture.

COLMAN'S RURAL WORLD was established in 1848 by Norman J. Colman, who later became the first United States Secretary of Agriculture. As a champion of advanced agriculture this journal has attracted nation-wide support, and is today held in highest regard by thousands of intelligent and discriminating readers.

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COLMAN'S RURAL WORLD is published every Thursday at 718 Lucas Avenue. Contributed articles on pertinent subjects are invited. Address all communications to **COLMAN'S RURAL WORLD**, 718 Lucas Ave. St. Louis, Mo.

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That system of farming which includes a waste of part of what is produced, is bad. The more condensed and the more finished the products are, the better will the farming pay.

By having market milk kept cooler from farmer to consumer the health department of Springfield, Mass., in three years has lowered the daily bacterial count from 577,000 to 46,600 per quart.

In growing crops, in breeding stock, in saving and applying manure, in all of the work on the farm, plan ahead as far as possible so that all the work may be done at the right time and in the right manner.

Getting 10 cents more per bushel for potatoes with no extra trouble, and buying grain for a third less than usual, are the results of the new farmer's union in Skowhegan, Me. The union during the winter has shipped 15 to 20 carloads of potatoes, realizing for each farmer in the union the amount mentioned above.

A Leghorn hen belonging to Purdue University, Indiana, made a record of 443 eggs in two years. The feed for this period, 132 pounds, cost \$1.93, while the eggs brought \$10.66 at 27½ cents per dozen. This gives a margin

of \$8.78 above the cost of feed, or a yearly profit of \$4.39.

All agricultural seeds, according to the new seed law, must be labeled. The best way to enforce this law is to have the buyers of seed insist on a label. The market for unlabeled seed will then disappear.

A successful dairyman says: We usually start with a small grain ration immediately after the cow freshens, and increase gradually from day to day, the amount depending upon existing conditions, the appetite of the animal and the way she responds in milk secretion to the increase of feed.

SPRING PREPARATION FOR CREAMERIES.

As soon as the ground is free from frost, the yards, the lawns, and other parts adjacent to the creamery should be cleared of all rubbish and thoroughly cleaned. If the drive is in poor condition, repairs should be made without delay. Ornamental trees and shrubbery, which add so much to the attractiveness of the creamery, should be set out at this time and the flower beds put in order. The machinery should be subjected to a thorough overhauling, and if new apparatus is required, it should be procured and installed before the arrival of the busy season.

If a new floor is needed, it should be put in at this time. It is also the proper time for painting the walls and ceiling, if it is necessary, and there are few creameries at this season where such treatment would not be beneficial. More time is now available and can be better spared than at any other season for any necessary repair work. In short, spring is the time to give attention to all matters affecting the efficiency of the plant.

One of the most important things in the management of a creamery is to adjust conditions and methods so that they are at all times in harmony with the requirements of the prevailing season. An incompetent manager makes no changes, as a rule, until he is compelled to do so by force of circumstances, while an able manager anticipates the seasonal requirements and prepares himself to meet them as soon as they appear.

In the spring of the year there are many things which should be given special attention by the butter maker and the creamery manager. If the spring cleaning has not been done it should be attended to without delay, for the busy season will soon be here—the season of long days and hard work when there will be no chance to attend to anything but the regular everyday duties. The surroundings of the creamery should be cleared of all rubbish; drives, flower beds, etc., should be put in proper order so that the factory may present a tidy and attractive appearance. In the creamery proper the walls, the ceiling, and the windows generally need washing and the refrigerator requires thorough cleaning. Perhaps the entire building needs painting both inside and outside. The doors, the windows, and the receiving room, or intake, should be properly screened. If the receiving room is left open thousands of flies will enter the building, though the doors and windows are screened; hence, where the building is so arranged that the intake cannot be screened it should be changed without delay. Flies are filthy, insanitary insects and should never be tolerated in a creamery.

As the atmosphere becomes warmer it will generally be necessary to reduce the ripening temperature of the starter and of the cream, especially during the months of May and June. In most cases the churning temperature can be reduced from 4 to 6 degrees from that in use during winter. When the cows have been turned out on pasture the color of the butter will be increased naturally from day to day and the amount of artificial color used should therefore be diminished accordingly.

FOREST FIRE SEASON GETS EARLY START.

The first reports of forest fires have begun to come in to Washington from the national forest and they indicate to

the federal officers an early start of the fire season, with unfavorable weather conditions from the very beginning. In the northwest there was less snow on the mountains at the end of the winter than for many years past. Railroad rights of way which were last year deep in snow are reported clear now and dry enough to burn readily.

From the Canadian border to Mexico the reports are similar, and there have already been extensive fires in California and Arizona.

The chief forester reports, however, that the fire-fighting forces of the service are organized better than ever before, particularly in respect to the fire detection system of lookout stations. By means of these stations fires are reported quickly and accurately, so that the control forces may be on the ground at the earliest possible moment.

In those states where the gravest danger threatens, special efforts are being made by the government foresters and by co-operative fire protection associations organized among timberland owners, to secure care with fire on the part of campers, prospectors, loggers, and by railroads. The northwestern forestry and conservation association, with headquarters at Portland, Oregon, is one of the leaders in this campaign.

POST OFFICE DEPARTMENT CO-OPERATES TO PREVENT FIRES.

The post office department has just repeated, in the current postal guide supplement, the instructions through which rural carriers are to report forest fires to the proper authorities during the coming season. These instructions were first issued in May, 1912, and during the past two years the co-operation has resulted in the detection and suppression of many fires.

State and federal forest officers will make a special effort this year to get even more value out of the service than has been obtained heretofore. The usual procedure has been for the state fire wardens or federal forest officers to send to the postmasters lists of local wardens and patrolmen, with their addresses and telephone numbers. These lists are given to the carriers with instructions to report forest fires to men whose names appear thereon, or to other responsible persons. This year a special effort will be made to follow up the sending out of the lists by having the patrolmen and wardens meet the carriers personally and to take the initiative in arranging such meetings, and also to map out a plan of action to be followed.

Co-operation between the rural carriers and the federal forest officers will be effective in the 20 states in which national forests exist and with state forest officers in the 20 states which have established their own fire protective system. It is expected that the services of the carriers will be particularly valuable in helping to protect the new national forest areas in the southern Appalachians.

SILVER, COPPER, LEAD AND ZINC IN MISSOURI.

The value of the mine output of silver, copper, lead and zinc in Missouri in the year 1913, according to J. P. Dunlop, of the United States Geological Survey, was \$29,604,890, compared with \$34,914,761, in 1912. The decrease was due mainly to an output of sphalerite concentrates more than 19,000 tons less in quantity and \$9 a ton less in value than the output in 1912. The production of sphalerite concentrates, of which all but 33 tons was derived from the Joplin region, amounted to 225,850 tons. The output of zinc carbonate and silicate in 1913 was 21,531 tons, compared with 22,172 tons in 1912. About half of this kind of zinc ore was shipped from leases of the Granby Mining and Smelting Co. at Granby, Mo. The recoverable spelter content of the zinc concentrates (which averaged slightly lower in 1913 than in 1912) was 124,963 tons in 1913, against 136,551 tons in 1912. The total quantity of lead concentrates produced was 255,723 tons, or 1,151 tons less than in 1912. The mines operating in the district of disseminated lead in southeastern Missouri reported the production of 218,949 tons of galena concentrates, aver-

aging 67.2 per cent of lead. The Joplin region reported the sale of 35,979 tons of galena concentrates and 323 tons of lead carbonate concentrates, a slightly smaller yield of both classes of ore than in 1912. The estimated total quantity of lead, zinc, and copper ore treated in Missouri in 1913 was 12,300,600 tons, or about 1,000,000 tons less than in 1912. The decrease was due almost wholly to the lessened activity in the "sheet ground" mines in the Joplin region. The average recovery of both concentrates and metal per ton of ore treated was not appreciably different from the recoveries in the two previous years. The lower prices of both lead and zinc, while reducing the production in the later part of 1913, resulted in active prospecting for high grade ore bodies. Much of this prospecting was successful and when prices advance many districts in the Joplin region will show an increased output.

The yield of silver and copper was derived mainly from the dressing of lead concentrates from mines in southeastern Missouri. The production of silver amounted to 35,620 fine ounces, valued at \$21,514, an increase of 133 ounces, compared with 1912. The production of copper in 1913 was 576,204 pounds, valued at \$89,312. The only mine in Missouri from which production of copper ore was reported was that of the Cornwall Copper Mining and Smelting Co., of St. Genevieve county, which shipped a quantity of oxidized ore carrying copper and silver. Most of the copper was derived from lead ores.

PURPOSE OF FARM COST ACCOUNTING.

Discussion of the value and use of complete cost records on the farm is becoming quite frequent in the rural press, and rather divergent views on this subject are being expressed. The real purpose of keeping cost records is to determine the cost, income, and profit of each individual enterprise in which the farmer is engaged; to set forth the governing factors of these; to exhibit the efficiency in the management and use of man labor, horse labor, and farm machinery; to show what the cost of living amounts to; and to fit these and all other branches of the farm industry into a complete, comprehensive whole that shall show every detail of the farm organization and operation.

Cost-accounting methods that fulfill all requirements in commercial enterprises will not necessarily do for the farmer. While the farm is a business and factory combined, it has one element not found in any other line of business, for the farm is a home, and the home finances are so involved in those of the farm that it is necessary to use care and thought to avoid confusing the farmer's personal business as a man with the farmer's business as a farmer. A man may make a profit in his farming operations and still be falling backward steadily by reason of his high personal and living expenses; or he may not even be making 2 per cent on his investment and yet be getting ahead. He may do this by keeping down these personal expenses, or a small per cent net return on a large capital may more than cover his living expenses. By means of complete farm cost records these conditions can be shown in their true light and the farmer enabled to discover the weak spots in his business organization.

Keeping account with only one or two enterprises may not show true conditions. In such accounts all possible income items are usually remembered, but many items of expense which complete accounts show actually exist are rarely added to the costs. As Professor Warren, of the New York State College of Agriculture, has said, "It is easy to figure a profit on anything except on the farm as a whole," and an attempt to bring the profit figured on a few separate special enterprise accounts into harmony with the year's gain or loss on the whole farm will usually fail for lack of complete data.

In all cases, actual farm values should consistently be used and the actual facts ascertained. If the values or quantities are made too high in the inventory in order to swell the year's "book" profits, the next year's

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"book" profits are affected inversely in like amounts. If the crop yields are overestimated or overvalued to make the crops show up well; if they are underestimated and undervalued when fed to live stock in order to show profits; if manure is credited to the live stock and never charged to the crops; or if any such juggling of accounts is indulged in by any man he is only fooling himself, and he gets distorted and misleading results. Showing every enterprise as it is, with conservatism in placing values, is the only safe road to true results.

Another pitfall in farm cost accounting is the tendency, almost universal, to single out one farm enterprise—as, for instance, beef cattle—as the sole productive account of the farm and to charge all produce to this account at cost. Accounting of this kind is labor thrown away. The results will not give the farmer information that will enable him to improve his methods so as to increase his profits.

The keeping of farm cost accounts requires thought and painstaking attention in their recording, summarizing, and interpretation, but are well worth it to the farmer who wishes to know just what he is doing. What is the use of going to a lot of trouble to keep accounts that do not give any true insight into actual conditions? Beef is a finished product; so also are corn, oats, hay, and many other things produced on the farm. The production of each of these is a separate, distinct farm enterprise, and the farmer needs to know the relative profit or loss from each independent of the others. When honestly done, farm cost accounting furnishes a direct and safe basis on which to work out a more profitable business management for the farm.

NO MORE TYPHOID IN THE ARMY.

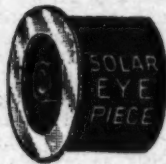
Typhoid fever has been banished from the United States army. In the entire enrollment of over 90,000 men in barracks or camps in the United States, Philippines, China, Porto Rico, Cuba and Hawaii, there were during 1913 only three cases of typhoid fever. Two of these were new recruits who developed the disease four and five days after they enlisted. Only a single case of typhoid fever in an inoculated soldier occurred during the entire year out of the entire body of 90,000 men. This case occurred in a soldier in the battalion on duty in China. All three of these cases recovered, so that not a single death in the army during the year resulted from this disease. When it is remembered that typhoid has been for centuries the most dangerous disease to the soldiers and that every army, whether on garrison duty or in the field, has expected to pay a heavy toll of sickness and death to this disease, the record of our troops is all the more remarkable. The disappearance of typhoid is due directly to typhoid vaccination, which has been practiced in the army since 1909. Previous to the introduction of vaccination the best record which had been obtained by sanitary precautions was in 1908, in which, out of 74,692 men, there were 239 cases of typhoid with 24 deaths. Vaccination, begun in the army in 1909, was at first voluntary, but later was made universal. In 1910, with 81,434 officers and men in the army, there were 198 cases of typhoid with 14 deaths. In 1911, with 82,802 men in the army, there were 70 cases and 8 deaths. In 1912, with 88,478 men enrolled, there were only 27 cases and 4 deaths, while in 1913, with 90,646 officers and men in the army, there were 3 cases and no deaths, and as has been shown above, two of the three cases were in recruits who had just joined the army. As the sanitary conditions, food, water and all the surroundings were practically the same in 1913 as in 1908, the only cause for such a remarkable record is the general enforcement of typhoid vaccination. These startling and gratifying facts are from an article by Major F. P. Russell in a recent issue of the Journal of the American Medical Association.

A CORRECTION.

We inadvertently gave credit to Albert Vassar for an excellent poem, "The Call from Galilee," written by "Goose Quill."

3½ Foot Telescope ALMOST FREE

THERE are a thousand uses for this instrument in every home and on every farm or ranch. You can see what your neighbors are doing who live miles away from you. It will bring the remotest part of your farm to your door. You can tell who is in a carriage long before they reach you. You can view and count stock on distant parts of your farm or ranch.



POSITIVELY such a good telescope was never offered in such a liberal manner before. These telescopes are made by one of the largest manufacturers of Europe; measure closed, 12 inches, and open over 3½ feet in five sections. They are brass bound, brass safety cap on each end to exclude dust, etc., with powerful lenses, scientifically ground and adjusted. Guaranteed by the maker. Everyone living in the country should have one of these instruments. Objects miles away are brought to view with astonishing clearness.

Used as a microscope it is found of infinite value in discovering microbes and germs in plants, and seeds, etc.

Heretofore telescopes of this size with solar eyepiece and multi-focal lenses, have sold for \$8 to \$10, or even more. We do not claim our telescope is as nice and expensive in every particular of construction as a \$10 telescope should be; that would be unreasonable; but it is a positive wonder for the price. Each telescope is provided with 2 interchangeable objective lenses—one for ordinary range and hazy atmosphere, the other for extra long range in clear atmosphere, increasing the power and utility of Telescope about 50 per cent.

Can Count Cattle Nearly 20 Miles Away.

F. S. Patton, Kansas, says: "Can count cattle nearly 20 miles away. Can see large ranch 17 miles east, and can tell colors and count windows in the house."

Saw an Eclipse of Sun.

L. S. Henry, The Saxon, New York, writes: "Your Solar eyepiece is a great thing, I witnessed the eclipse at the Austrian Tyrol when the sun was almost 80 per cent concealed."

Could See Sun Spots.

Rutland, Vt., Feb. 16, 1910.—Telescope arrived O. K. I have seen the spots on the sun for the first time in my life.—Dan C. Safford.

EVERYBODY WANTS A GOOD TELESCOPE



REMEMBER
this offer
is limited
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Quickly



Colman's Rural World
718 Lucas Avenue,
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SIGN THE COUPON BELOW TODAY

These telescopes are imported from German manufacturers. They represent the best skill of the old world. Labor there is much cheaper than here, hence the low price at which these wonderful telescopes are able to be sold. We guarantee this telescope to be as represented in every way. It is marked for adjustment, so that anyone can adjust it to the marks, and by a little practice can regulate the lens for various distances.

Scores of owners of this telescope would not take \$5 to \$10 for their instrument, if they could not get another one. They give universal satisfaction. Everyone is delighted.



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Send us \$1.00 to pay for a one year extension on your subscription to our big farm paper Colman's Rural World and 35 cents extra to help pay mailing and packing charges on the complete telescope outfit, which will be sent postpaid (total amount to remit, \$1.35). Absolute guarantee of satisfaction or money refunded.

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718 Lucas Ave., St. Louis, Mo.

Gentlemen:—Enclosed find \$1.35 for which you may extend my subscription one year to your big farm paper, Colman's Rural World and send me one of your telescopes as advertised. Telescope to be as represented in your advertisement, both as to size and quality.

Name
Post Office
State
R. F. D. No. Box

Home Circle

THE HOME DAYS.

When the goldenrod has withered, and
the maple leaves are red,
When the robin's nest is empty, and
the cricket's prayers are said,
In the silence and the shadow of the
swiftly hastening fall
Come the dear and happy home days,
days we love the best of all.

Then the household gathers early, and
the firelight leaps and glows
Till the old hearth in its brightness
wears the glory of the rose,
Then the grandsire thinks of stories,
and the children cluster sweet,
And the floor is just a keyboard for
the baby's pattering feet.

If the rain drops dance cotillions on
the roof and on the eaves,
If the chill wind sweeps the meadows,
shorn and bare and bound in
sheaves,
If the snowflakes come like fairies,
shod in shoes of silence, we
Only crowd the closer, closer, where
the cheery kindred be.

Oh, the dear face of the mother, as she
tucks the laddies in!
Oh, the big voice of the father, heard
o'er all the merry din!
Home, and happy homely loved ones,
How they weave their spells
around
Heart and life and creed and memory,
in the farmstead's holy ground!

When the goldenrod has faded, when
the maple leaves are red,
When the empty nest is clinging to the
branches overhead,
In the silence and the shadow of the

—Margaret W. Sangster.

WOMAN.

By Claire V. D'Oench.

Men have the habit of saying that
they do not understand a woman—is
this true? Do they really want to un-
derstand a woman? Do they not pre-
fer to consider her a sweet mystery?

A woman, a sweet womanly woman,
is like a flower one never grows tired
of, she is an ever interesting study in
all her interesting moods and atti-
tudes.

To define a woman, man is naturally
at a loss as to a beginning, he might
make a start by saying that she is a
magnet which is ever true. She draws
the world around her, and there can be
no world without her, making her a
most powerful factor in the universe
of which she is queen. Goethe says:
"Das ewig Weibliche zieht uns hinan"
and he surely knew.

All this applies to woman in gen-
eral. If we want to define woman's in-
dividual qualities it becomes difficult
because one woman cannot possess all
the graces; God has been so liberal in
His blessings to her, and thus made it
hard for man to make his selection;
this may account for so many bache-
lors.

Woman is so delightful, so charm-
ing, so unspeakably nice, such a bou-
quet of elusive sweetness and alluring
loveliness.

Daintily she creeps into a man's
heart with her seductive smile, cleverly
she knows how to hold the lord of
creation in her invisible chains
leading him on to Paradise.

The more a man admires one cer-
tain woman, the more he longs to be
where she is, and the deeper will be
his silence about her, and the less he
tries to define her. A man cannot tell
why he is drawn to a woman, he only
knows that he likes her; however,
when he thinks he has found the
cause of her charms and drawing power,
and thinks he has discovered the
mystery of her personality, he will sit
on to the next sweet woman flower,
buzzing on like a bee, until he is
"stung" by Cupid's arrow, and laid
low at her feet, where he pleads to be
taken up as her equal or her slave,
until death do them part.

Men think that women do not know
how to define their own sex. I have
an idea that they are wrong in that
statement. Women, that is, the diplo-
matic kind, handle each other with
"care and right side up," they use

sweet, and kind language to one an-
other and their aim is to keep down
a certain paw that is supposed to be-
long to womankind as her species, a
belief woman tries to eradicate from
the minds of humanity.

When the French want to define any-
thing that is changeable, they say:
"Capricieuse comme une femme," that
like all their diplomatic language, cov-
ers a lot of ground, as the saying goes,
for, no matter how many of the fore-
going fine qualities a woman may pos-
sess, it does not prevent her from be-
ing "capricieuse" when the mood
strikes her to be so at times, and
which is one of the qualities that
make her such a seeming mystery.

THE TWINKLERS.

By Adela Stevens Cody.

Wasn't it Jasper Blines who re-
cently asked, "Where are the Twink-
lers?" Well, that question has been
answered in the St. Louis Globe-
Democrat, in its issue of April 26th, a
whole page being given to an account
of that interesting club and adorned
by the photographs of faces once fa-
miliar to the readers of the Home
Circle of this paper. All the charter
members of the club were writers for
Colman's Rural World and the club
had its inception one sunny Septem-
ber afternoon at the cheery tea-table
of our "Idyll" when the ladies there
had invited to meet each other there
found so much congeniality of spirit
that they decided to continue the
meetings, holding one each month.
Other members of the Home Circle
family joined it and it continued to
flourish and spread helpfulness and
happiness around it. Among the pho-
tographs in the account of its present
stage of progress are "Idyll's" (Mrs.
Helen Watts McVey), whose capabil-
ity for earnest and successful work
in the field she has chosen is a mar-
vel; "Ina May's" (Mrs. Lola V. Hays),
who is winning her spurs as a writer
and doing an incredible amount of
Sunshine work in St. Louis; "Aunt
Clara's" (Mrs. F. W. Baumhoff), who
is such an embodied bit of "Sunshine"
that she dazzles one, writing, lectur-
ing and doing things for others with
a vim that carries all before her;
"Harriet's" (Mrs. Harriet Whitney
Symonds), who has a range of read-
ers of her exquisite nature poetry
and home-like stories that reaches
across the continent; "Marie Mer-
ron's" (Miss Marie Merceret), who
was the editor of the Home Circle
in its palmy days and who is conduct-
ing editorial departments in other pa-
pers and magazines besides doing a
lot of work in other lines; "Luella
Cackay's" (she is now Mrs. G. Grim-
by), who is gaining success in journal-
istic fields as well as in general lit-
erature; Lydia Coghlan's, whose let-
ters, poems and household hints in
former pages of the Home Circle give
an idea of the delicacy of fancy and
the good common sense of her books,
plays and stories; "Rosemary's," or
"Violet Wood" (Amy Miller), whose
name is seen in many of our most
popular magazines, as author of
stories, verses and household articles.
Do you wonder that the late editor
of the Rural World, Gov. Colman, was
proud of the corps of authors whom
he encouraged and saw "making
good?" And that day we saw him,
with tears in his eyes, falter out his
wish that we might remember him
when he was with us no longer and be
loyal to the paper he loved—well,
don't you think, with Walter Whitacre,
that a rally of the clans would be
good? Or, suppose we make it a
"Memorial Number?" Not in the
ordinary sense of that term, but let
each one recall in what way he or
she was helped the most by our
kindly governor and those of the band
who have passed into the silence of
the unknown with him.

THE GROWTH OF THE ENGLISH LANGUAGE.

By Adela Stevens Cody.

Walter Whitacre's remark about
his father being a subscriber for Col-
man's Rural World when it was a lit-
tle publication known as the "Valley
Farmer," recalls the history of a big
dictionary in my possession. In 1865,
I think, a neighboring farmer suc-
ceeded in raising a club for the Val-

ley Farmer for which the premium
was a newly revised edition of Web-
ster's Dictionary. My father was one
of the subscribers and I used to walk
more than two miles each week to the
postoffice to get the paper. Our
friend, the farmer, died and his estate
and all his belongings were sold and
scattered far and wide. Finally, after
more than 40 years from his demise
the old dictionary and his big family
Bible came into my possession. Also
a weather-stained box of family pic-
tures. I treasure all of them in re-
membrance of the pleasant old gentle-
man and the good times I had in
childhood on his well kept farm.

In looking through the dictionary
I am surprised at the hundreds of
words that have been grafted upon
the English language since then. New
inventions call for new words; trav-
elers bring back words and phrases
picked up in their wanderings which
flourish as luxuriantly as orchids on
tropical trees when they settle among
the words in our vocabulary. Truly
the English language is very much
alive and daily growing.

WHO IS IT?

Who is it, when the babies cry,
Will quickly to the infants fly
And instantly their needs supply?
'Tis mother.

Who is it, when the child did fret,
As sickness it did often get,
Had watched the babe and little slept?
'Tis mother.

Who is it will with great delight
Direct the boys and girls aright,
And make their many hardships light?
'Tis mother.

Who is it, when this life's most o'er,
When they can do for you no more,
Will point you to the heavenly shore?
'Tis mother.

St. Louis.

ALBERT E. VASSAR.

CORN DODGERS.

Pour three-fourths of a pint of boil-
ing water over one pint of sifted white
meal. Add one teaspoonful of salt
and a lump of lard the size of a wal-
nut. Stir well. When cool add
enough cold sweet milk to make a
stiff batter. Shape in oblong cakes,
put them on a greased skillet and
bake in the oven until brown.

PRESERVING FOODS FOR HOME USE.

Juicy foods, such as vegetables,
fruits, and meats, spoil very quickly
when left in the open air, especially
in summertime. The decay of such
foods is the result of the action of
micro-organisms which are always
present in the air and hence infect
any food material which is open to it.

These micro-organisms, commonly
known as "bacteria," "germs," or
"microbes," are all alike in that in
order to grow, and so produce the de-
cay of the food with which they may
be in contact, they must have mois-
ture, the proper temperature, and
plenty of air, and must not be in con-
tact with certain chemicals which hin-
der their growth and are known as
"antiseptics" or preservatives.

Drying is the easiest and most ef-
ficient method of preserving food
from decay; but the necessary heat
to dry the material rapidly usually
partially cooks the food and so
changes its flavor. But thoroughly
dried foods will keep indefinitely, if
kept from getting damp.

The next most efficient means of
preservation is to exclude the air, as
canning fruits and vegetables. Heat-
ing the material before it is sealed up
does two things, (1) kills most of the
bacteria which are in the food, and
(2) drives out the air from it, so that
when the can is sealed up air-tight
any bacteria which may not be killed
by the heat cannot grow because they

THAT TIRED FEELING IN THE SPRING

That tired feeling that comes to
you in the spring, year after year, is a
sign that your blood lacks vitality,
just as pimples, boils and other eruptions
are signs that it is impure; and
it is also a sign that your system is
in a low or run-down condition in
which it will be easy for you to con-
tract disease if exposed to it.

Ask your druggist for Hood's Sarsaparilla. This old standard tried
and true blood medicine relieves
that tired feeling. Get Hood's today.

YOU NEED MEDICINE AT THE TIME.

When nature falters and from over-
work a tired, wornout body is unable
to perform its natural functions, EL-
LA R. BERRY'S CREOLE TEA is in-
dicated and may be confidently relied
upon to stimulate the liver and by
freely taking it all the year around,
by old and young alike, Chronic Con-
stipation, Indigestion, Colds, Rheuma-
tism, Bad Complexion and Skin Dis-
eases can be relieved and overcome.
For nursing mothers, after it is
steeped, as told on each box, and for
children, there is nothing better than
ELLA R. BERRY'S CREOLE TEA in
Herb form. A little sugar can be
added to the tea and mild doses, ad-
ministered from time to time, will
keep them well and healthy. At all
drug stores, 10 cts a box.

Your Bunion Can Be Cured Instant Relief Prove It At My Expense

Don't send me one cent—just let me prove
it to you as I have done for 27,532 others in the last
six months. I claim to have the only successful
cure for bunions ever made and I want you to let
me send you a treatment, FREE, entirely at my
expense. I don't care how many so-called cures,
or shields or pads you ever tried without success.
I don't care how disgusted you feel with them all—
you have not tried my cure, and I have such abso-
lute confidence in it that I am going to send
you a treatment absolutely FREE. It is a
wonderful yet simple home treatment which re-
lieves you almost instantly of all pain; it removes
the cause of the bunion and thus the ugly deformity
disappears—all this while you are wearing
tighter shoes than ever. I know it will do all this
and I want you to send for a treatment, FREE,
at my expense, because I know
you will then tell all your
friends about it just as those
27,532 others are doing now.
Write now, as this announce-
ment may not appear in this
paper again. Just send your
name and address and treat-
ment will be sent you promptly
in plain sealed envelope.

FOOT REMEDY CO.
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and silver, and steel, and
diamond, silver, aluminum
table free with each plus
extra present given if you order one.

IDEAL WATCH CO., Dept. 235 ELMIRA, N. Y.

PEEK-A-BOO.

Playing peek-a-boo with mama;
Hiding in the room somewhere;
Great old times we once were having.
Making life seem bright and fair.

Playing peek-a-boo with mama,
In the good old long-ago;
Though that pleasure is all over,
It sets memory all aglow.

ALBERT E. VASSAR.

St. Louis.

WE WILL GIVE
This GOLD PLATED LOCKET and 22-in. CHAIN
—Locket opens to hold two pictures and is set with 7 perfect
simultaneous TURQUOISES and a PEARL—and these
4 GOLD PLATED RINGS to anyone that will sell
only 12 pieces of jewelry at 10c each and return us the
\$1.20. We trust you and take back all not sold.
Address: E. E. DALL MFG. CO., PROVIDENCE, R. I.

FIGHT THE FLIES.

Now is the time to begin our fight against the house-fly. From 95 to 99 per cent of our flies breed in horse manure, so the obvious remedy is to prevent the collection of quantities of stable litter which might act as fly nurseries. Their next favorite breeding place is the kitchen garbage and privies. These latter can be more easily eliminated than the former.

Begin early by removing all stable litter to the field. See that no small pockets of manure are left around the stable yard after the removal of the pile. Then follow this cleaning up by hauling the manure onto the field each day during the summer. This may seem like a burden to the farmer, but with a little forethought, it need not be so. Arrangements can be made for the use of a field for this purpose and it is a well-known principle that manure placed at once upon the field is of more value as plant food. Remember that during summer weather a period of five days may be sufficient to produce a brood of flies from the egg to the adult so that manure left in a pile for this length of time will serve as a breeding place.

In villages and small towns, where it is not possible to remove the stable litter every day, a lean-to or a room in the stable may be constructed which is dark and has ventilators covered with fine wire screening. This

can be used to receive the manure until it is convenient to remove it. Flies will not enter a dark room to place their eggs and cannot enter a fly-proof room, so the manure is safe from infection in such places.

Flies feed upon filth, such as sputum and that found in privies, but they are also very strongly attracted by the odors of cooking and food in the house. To prevent infection from being carried to our food, every precaution should be used to make the out-buildings perfectly sanitary so that flies cannot enter, and the houses should also have windows and doors fitted with screens.

The motto in fly control should be, "Better sanitation" both in the barnyard and about the house.—C. W. Howard, Assistant Entomologist, University Farm, St. Paul.

Redwood sawdust is being used by vineyardists in California for packing fresh table grapes. It takes the place of the ground cork used for imported Spanish grapes.



FREE WATCH

Our fully guaranteed Watch is highly engraved, stem-wind, stem set, simulated gold finish; desirable also for ladies or gents; late thin model, fancy bevel, new design. Given free for selling only 20 large beautiful art and religious pictures at 10c each. We trust you with pictures until sold, and give a beautiful gold plated watch for an extra gift for promptness. Send name today. We give a surprise gift for promptness. People's Supply Co. Dept. R.W. 716 Lucas Ave., St. Louis

PATTERNS FOR RURAL WORLD READERS.

In ordering patterns for Waist, give bust measure only; for Skirts, give waist measure only; for children give age only; while for patterns for Aprons, say large, small or medium.

9678—Child's Rompers.

Cut in 4 sizes: 3, 4, 5 and 6 years. It requires 2½ yards of 36-inch material for a 4-year size. Price 10c.

9958—Ladies' Shirt Waist.

Cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 2½ yards of 44-inch material for a 36-inch size. Price 10c.

9957—Ladies' Bungalow Apron.

Cut in 3 sizes: Small, medium and large. It requires 4½ yards of 36-inch material for a medium size. Price 10c.

9945—Dress for Misses and Small Women.

Cut in 4 sizes: 14, 16, 17 and 18 years. It requires 5½ yards of 44-inch material for a 14-year size. The skirt measures about 1½ yards at the lower edge. Price 10c.

9942—Child's Dress With or Without Tuckers.

Cut in 4 sizes: 2, 4, 6 and 8 years. It requires 2½ yards of 36-inch material for a 4-year size, with 1 yard for the gimpes. Price 10c.

9943—Boy's Play Suit With Knickerbockers.

Cut in 4 sizes: 2, 3, 4 and 5 years. It requires 2½ yards of 44-inch material for a 3-year size. Price 10c.

9947-9946—Ladies' Costume.

Waist, 9947, cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. Skirt, 9946, cut in 5 sizes: 22, 24, 26, 28 and 30 inches waist measure. It requires 5½ yards of 44-inch material for a medium size, for the entire dress. Two separate patterns, 10c for each. The skirt measures about 1½ yards at the lower edge.

9949—Dress for Misses and Small Women.

Cut in 4 sizes: 14, 16, 17 and 18 years. It requires 4½ yards of 44-inch material for a 16-year size. Price 10c.

These patterns will be sent to RURAL WORLD subscribers for 10 cents each (silver or stamps).

If you want more than one pattern, send 10 cents for each additional pattern desired.

Fill out this coupon and send it to COLMAN'S RURAL WORLD, 718 Lucas Ave., St. Louis, Mo.:

Pattern No. Size Years
Dust. in. Waist. in.
Name
Address



There's money in eggs. That's where the profit lies. Barron and Culver strains lay wonderfully. Culver strain hens slated with pure Barron strain males, nephews of 282-egg hen. Eggs, \$2 per 15, or \$10 per 100. One yard imported direct from Tom Barron's best pedigree stock. Also wonderful show yard. Their record will surprise you.

Fawn Indian Runner ducks—Mo. State Show winners. Eggs only \$2 per 13, \$10 per 100. Large White Holland turkey eggs, \$5 per 10 eggs.

ILLUSTRATED CATALOGUE FREE.

MARY CULVER, Route 1, KING CITY, MO.

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SMALL ADS. DO BIG THINGS.

TRY A CLASSIFIED AD.

HELP WANTED.

LADIES—Make plain aprons at home, \$6, \$8 weekly; only band and hem; full size sample apron, etc., sent free on receipt of 25c silver. "Aprons," Box 565, Norman, Okla.

THOUSANDS of Government positions open to men and women over 18, \$90 month. Vacations. Short hours. Write immediately for free list of positions now available. Franklin Institute, Dep't. G 168, Rochester, N. Y.

HUSTLING man under 50 years wanted in each locality. To join this society and introduce our new memberships. Part or full time. \$50.00 to \$500.00 monthly. Experience not required. Address, The I-L-U 2021, Covington, Ky.

FARMS AND LANDS.

DO YOU want a home and it paid for? 100—at 10 apiece. For the truth address, L. S. Winfrey, Long Branch, Texas.

WANTED—To hear of good farm or unimproved land for sale. Send description and price. Northwestern Business Agency, Minneapolis, Minn.

QUICK CASH for property or business; anything; anywhere. No agents. No commission. Write Dep. L., Co-operative Salesman Co., Lincoln, Neb.

FARMS, city property and stocks of goods wanted for exchange for Kansas, Missouri, Oklahoma and Arkansas lands. Address Kiblinger & Ball, Oswego, Kan.

THE VERY BEST drainage land in Southeast Missouri; \$22.50 per acre; mostly long time; near main line railroad. Write for plans and literature if interested in this valuable land. El. F. Shubert, 1605 Hickory St., St. Louis, Mo.

FARM FOR SALE—1,600-acre farm and stock ranch for sale at low price. Land is rich black sandy loam; nearly all level. Ranch is stocked with fine cattle. Will sell ranch and cattle together, or will sell ranch alone. It is on main line of Rock Island R. R., and two miles from good shipping point. Abundance of fine, cold water, never failing. This farm is all rich agricultural land, capable of producing good corn, wheat, oats and barley, and just the home of all kafir corn and sorghum families. This is a first-class cattle country. Our native grass, the Buffalo, can not be excelled for grazing and fattening. The present owner has raised upon this land per acre corn, 55 bu.; wheat, 80; oats, 50; barley, 50; kafir corn, 40; sorghum, 40 bu. Land adjoining this farm has a prospect at present for a 30 bu. wheat crop; farm is all neatly fenced and cross fenced; land all in one body and operated as one farm; exactly suited for a man that wants to farm and stock raise on rather large scale, or can be conveniently divided into three more farms with but little expense. No encumbrance; title the best; price, \$25.00 per acre, part cash, balance time, 6 per cent. If parties wishing to buy will deal direct with me, they can save big commission. I am going to make this a glittered proposition to the right man. References if desired. Address the owner, M. E. Dahmer, Mississ, Meade county, Kansas.

LIVE STOCK.

FOR SALE—Duroc pigs and bred gilts; prolific strain. Frank Mumford, Oakland, Mo.

FOR SALE—Jersey bull, 2 yr. 7 mo. old. Write for price and pedigree. Cassius E. Keene, West Alton, Mo.

REGISTERED yearling Jersey bull, from 48 pound cow flying Fox. Silverline Lad breeding. D. A. Kramer, Washington, Kan.

GUERNSEY BULLS for sale—Two full blood, not eligible to registry; one yearling, good, \$30; one 8 months, \$55. H. Vroman, Verona, Wis.

FOR SALE—A good farm, 100 cattle, 40 sheep, registered Berkshire hogs of very best breeding; separately or together; Angora goats. W. Grey Ellis, Florence, Miss.

FOR SALE—Some choice Guernseys. The premium 4-year-old bull Roy of Oakwood. Some bred heifers and an extra nice lot of male calves. W. Henry Bell & Son, Scotts Station, Ky.

SEED AND NURSERY STOCK.

SWEET CLOVER SEED—Pure white and large biennial yellow. Prices and circular sent on request. Bokhara Seed Co., Box D., Falmouth, Ky.

FERTILIZER—Pamphlet giving experience with this drouth-resisting grain and forage crop. Will mature after oats or wheat crop. Pure, high-testing re-cleaned seed \$2.75 single bu.; \$2.50 in two bu. lots; sacks free. H. M. Hill, Lafayette, Kan., E. L.

POULTRY.

CLOSING OUT Rose Comb Black Minorcas, \$1.00. Roy Walters, Burdett, Kansas.

WHITE WYANDOTTES, eggs, \$3.00 a hundred. Richard Merkle, Mound City, Kans.

BARRED ROCKS, Bradley strain. Eggs \$3 per hundred. Mrs. Nelson Havana, Lanby, Ia.

HOUDANS, ANCONAS, Single Comb Brown Leghorn eggs Reasonable. E. Durand, Millersville, Ill.

SINGLE COMB Rhode Island Reds. Eggs for hatching and baby chicks. E. A. Miller, Kalona Iowa.

SINGLE C B MINORCAS and Rose Comb R. I. Red. Stock and eggs. F. Kremer, Manchester, Okla.

FOR SALE—Full-blooded Mammoth Pekin ducks. Eggs \$1.00 per setting. Mrs. A. Brower, Rinehart, Mo.

FAWN and WHITE Indian Runner duck eggs, \$2.00 per 13; Barred P. Rocks, \$1 per 13. J. Gilbert, Webster Groves, Mo. R. 4.

ROSE COMBED Brown Leghorns, Kulp strain, eggs for hatching, \$1.00 per fifteen. Mrs. Albert Johnson, Windsor, Mo., R. 21.

RINGLET BARRED ROCKS—Eggs \$1.50 setting, \$4.00, 50; \$5.00, 100; fair hatch. M. L. Stamper, Clifton Hill, Mo.

BARRED FLYMOUTH ROCKS, exclusively eggs, 75c for 16, \$4.00, 100. Well barred. Fresh eggs. Mrs. H. C. Luttrell, Paris, Mo.

BABY CHICKS—Leghorns, \$10; Barred Rocks, \$12; Reds \$14 per hundred; 50 at hundred prices; delivery quarantined. Snowflake Hatchery, 1404 Sturm ave., Indianapolis, Ind.

BUFF O. EGGS for sale; pen headed by Prince, a son of \$150.00 imported cock. Struble, O. farm, Bascom, Ohio. \$5.00 eggs for \$3.00 rest of season. Mrs. Clara Barber, Corbin, Kan.

HANLEY'S FANCY FLYMOUTH ROCKS, Barred, White and Buff. Winners wherever shown. I have some of the best I ever raised, birds I could sell easily at \$50.00 each. Eggs, pullet mating. Pen 1—\$5.00 per 15; Pen 2, pullet mating, \$2.50 per 15; Pen 3, chick mating, \$3.50 per 15; 60 per cent guaranteed fertile or duplicate the order at half price. Eggs half price after May 15. J. H. Hanley, Monticello, Mo.

AGENTS.

1,000 AGENTS wanted at once, to sell the Imperial Self-heating Iron; men or women; salary or commission; \$15.00 to \$20.00 per day profit; experience unnecessary; sells at sight. Imperial Self-heating Iron Co., Memphis, Tenn.

PRINTING.

LET'S GET ACQUAINTED. One Year Farm Record Book, 25c, and free samples of distinctive printing for farmers and stockraisers. Call Printery, 103 Market, Troy, Ill.

MISCELLANEOUS.

WANTED—To buy 5,000 mink and foxes. \$2.00 to \$5.00 each. Beechhurst Co., Shelbyville, Ky.

YOU CAN make \$3.00 per 100 collecting names for our directory; million names wanted. Send 25c for blanks and outfit. Pay as you collect names. Mahaffey's Directory, Norman, Oklahoma.

WANTED a location to practice as a veterinary in a good live town in Mo., 25 years' experience in treatment of all diseases. Dental work a specialty. Dr. G. W. Merritt, V. E. New Florence, Mo.

SAN FRANCISCO FAIR!!! Do you want to go there next winter? Spend a penny for full particulars. Send us a card and we will forward literature telling you how to make money in spare time. Compton Bros. Agency, Findlay, Ohio.



LOCKET AND RING FREE

Gold plated Locket, 2½ inch Chain. Set with beautiful brilliants. Very handsome. Free for selling only 20 large and small pictures at 10c each. Gold filled Ring, set with 6 brilliants, given for promise. We trust you with pictures until sold, and give an extra gift for promptness. Send name today. People's Supply Co., Dept. R.W. 716 Lucas Ave., St. Louis

Horseman

Secretary R. W. Campbell states that Meade, Kan., will have September 2 to 4 dates in the Wheat Belt Race Circuit.

Admiral Dewey II., in the stable of Mart Wilson at Indianapolis, is named in the Chamber of Commerce. He worked a mile in 2:06 last fall.

Lon McDonald is staking his recent purchase, McCloskey, in most of the stakes on the Grand Circuit. Last summer he showed ability to beat 2:08.

Graham Bros., Princeton, Ind., have purchased from James Kight, Owensville, Ind., the good trotting stallion, Moving Medium, by Red Medium, 2:23 1/4.

W. M. Clark is secretary of the Marshall County Fair which will be held at Marshalltown, Iowa, September 14 to 18. W. T. Bennett is the superintendent of speed.

Ida May W., 2:29 1/4, was the only Ohio bred yearling to take a record in 1913. She is by Cazeaux, son of Todd, owned by Kyger Bros. & McVicker, of Oxford, Ohio.

Dick McMahon has named King Clansman, (4) 2:14 1/4, in the M. and M. There are not many entered in that event that look any better. Last year he looked to have "everything."

William Purdy, New London, Ohio, has purchased the stallion, Commodore Lewburn, by Vice Commodore, 2:11, dam Rose Leyburn, 2:15 1/4 (dam of seven trotters and three pacers), by Onward.

John Platz, Jewett, Ill., reports that his mare, On Parole, by Parole, 2:16, dam by Onward, foaled a bay colt by Vintell, 2:19 1/4, owned by J. W. Redman, Casey, Ill., and will be bred back to him.

Lon McDonald, Indianapolis, has purchased of Millard Drinkwater, Braintree, Mass., the 3-year-old pacing gelding, Squanturn by Squanto, a son of Todd, dam May Day Medium, 2:18 1/4, which is entered in the futurities.

Maggie C., 2:09 1/4, by Earlmont, has a fine colt by Mainsheet, 2:05, at R. S. Strader's "Forkland" at Lexington, Ky. The colt is a full brother to Lena Rivera, trial 2:08 1/4, that Tommy Murphy has named in the M. and M.

Thus far R. E. Biggs, of Baltimore, Md., has been engaged to officiate as starter at Washington, Waynesburg and Dawson, three of the Pennsylvania and West Virginia Short Ship Fair and Racing Circuit.

Claire Wolverton, one of the most successful of the younger set of trainers, will train a public stable at Lafayette, Ind., as usual. He has several head of good ones booked and undoubtedly will have some good winners out at the races.

Secretary D. V. Moore announces that the Grand Forks, N. D., Fair will be held July 28 to 31. Mr. Moore says this is the largest independent fair in the Northwest and that it is inter-state in character. Fred L. Goodman is the president.

THE PROFIT IN CHEAP HORSES.

A few days ago a Wisconsin farmer hailed me in this wise: "Why do you keep everlastingly advocating the breeding of draft horses when it is more profitable for all so-called 'average farmers' to produce the cheap sort? You continually tell us to pay high service fees for the heaviest stallions and to feed our colts from birth so as to have a salable age something for which we can get from \$250 to \$300, providing the horse stays sound. I have found it much more profitable in every way to breed a much cheaper class of work horse. I have a lot of mares worth about \$100 to \$125 per head. I breed them to a stallion at \$10 per mare. After a good season's work out of the colts I sell them at four years of age for an av-

erage of \$150. Would it pay me better to keep the same number of mares worth \$250 apiece, pay service fees of \$20 to \$25, and then come out at the windup with about half as many colts to sell as I have under present conditions?"

Here is considerable food for serious thought. The essence of this man's contention lies in the fact that inferior horses of all sorts have for a long time been bringing relatively more than the best. Almost any kind of a decent little block of a farm gelding will bring from \$125 to \$150, and there is no sense in denying that it is easier to raise the little ones than the big ones. Glance at the quotations on the Chicago horse market. Pairs of farm geldings weighing from 2,500 to 2,600 pounds sell at \$300 to \$350, which means that the raiser received \$125 to \$150 per head for them. Pairs of farm mares weighing from 2,500 to 2,800 pounds are bringing from \$340 to \$450 and perhaps a little more for the best, which means \$150 to \$210 apiece at home. Highest class chunks weighing from 1,500 to 1,550 pounds, and drafters at 1,650 pounds upward, bring from \$230 to \$300, or from \$210 to \$275 per head to the raiser.

Now figure the difference in the investment in mares capable of producing the higher priced sorts and the mares that produce the farm workers, the percentage of colts produced and brought along sound to selling age, the expense of raising and all the other items involved, and it at least brings up a lively theme for discussion. But the sort of farming the breeder does, the yields of crop he secures, and many other factors affecting this particular branch of live stock husbandry must not be forgotten. Nor must the future demand be omitted from consideration. The horse is valuable not alone for what it brings, but also for what it does. It is with the brood mares that the work on the land should be done.—Annandale, in Breeders' Gazette.

COLMAN STOCK FARM NOTES.

Editor Rural World: I have been very busy this spring shaping up and selling colts. With the help of the Rural World I have sold about 18 to date, over half of them to parties that have previously been bought from me. I have 14 young foals so far by Baron Reaper 2:09 1/4 and they are the best colts I have ever seen foaled at this farm. When the weather is not too bad we let all mares foal in the pasture. I think this is one reason we have not had a case of navel infection for 10 years. Baron Reaper is looking fine and is kept busy in the stud. A big crop of alfalfa is about ready to be cut. I have a few very promising colts in training, and if not sold will start them in some races.

CARL ROTHENHEBER.

NAVICULAR DISEASE.

Animals point their feet when suffering from laminitis trouble in its subacute or chronic form, as they do in navicular disease, with this exception, namely, that in navicular disease the toe rests most on the ground, whereas in laminitis it is the heel.

As is well known, says a veterinarian, a horse suffering from navicular disease goes on his toes; this is to save the back part of the foot, where the disease exists; the horse consequently goes lamer down hill, when the heel comes in contact with the ground first, and receives the jar and concussion on this spot; in laminitis, it is exactly the reverse.

The chief seat of this disease is all round the front and sides of the foot, and the animal goes on his heel to save the front, and is lamer going up hill, when the toe strikes the ground first and receives the most jar and concussion. The treatment I have prescribed must be continued until there is improvement in the animal's movements; when this is noticeable, it proves that the inflamed and congested condition of the foot is subsiding.

If the shoes have not been removed, have them taken off now; this must be practicable. If the horse lies down in the early stage, it is a good opportunity to remove them, which must not be lost.

When it is certain the horse is improving, reduce the medicine to half

doses, then to twice a day, and so on until it is gradually stopped. I am no medicine fiend, and the less we can do with, the better. Medicine must be given and is an urgent necessity in many cases, but many horses are made much worse and often killed by the continuous and injudicious use of drugs.

It is the same with man; there are hundreds, yes, thousands of medicine cranks who would rather take a pull out of a medicine bottle, or swallow pills or tablets, than drink a glass of "old crusted." It was only a short time ago that one of these "walking drugstores" told me that he felt much worse that morning, although he had taken 63 little globules. I told him to go order a coffin. Medicine is a necessary, but as soon as you see that nature (the great doctor) is stepping in to stop the medicine or reduce it, and leave the rest to this kind nature and good nursing.

If the appetite does not come on as it should, a few doses of the following will generally stimulate it: Sulphate of quinine, 30 grains; sweet spirits of niter one ounce; tincture of gentian, one ounce; cold water, six ounces.

This may be given three times a day for a few days or until the appetite returns, about half an hour before meals when the patient gets so that he can walk about, the best thing to do is to turn him out into a soft, swampy meadow. I do not mean a place where he will go up to his knees and hocks at every step, but a nice, soft, cool place, with dry places where he can lie down, and which he will always find out when he wants to, for a horse likes a wet bed to lie on just as much as a man does.

After he has been out for 10 days or a fortnight, apply the following blister to the coronets. Of course, he will have to be taken up from pasture to have the blister put on and kept up for a week or so, and then turned out again until he has thoroughly recovered: Binioidide of mercury, one dram; powdered cantharides two drams; lard, three ounces. Mix thoroughly and use as directed.

ALFALFA AND CORN.

In a recent address, Hon. A. P. Grout, the president of the National Alfalfa Growers' Association, stated that one acre of alfalfa is equal to four acres of average corn. He said:

"It never occurred to me until three or four months ago to make a comparison and reduce the value of an acre of corn and alfalfa to figures.

"This season I put at least five tons of alfalfa to the acre into my barn and it is worth \$20 a ton. After this hay was carefully put into the barn, some of my neighbors began to haul corn to the elevator at 50 cents per bushel, and then, for the first time it occurred to me that if I had sold my alfalfa for \$100 and put that amount, \$100, into corn, it would have given me 200 bushels. Now, this land on which I am growing alfalfa would be able under the best conditions to grow 90 or 100 bushels, but I am not growing any such amount. If I get 75 bushels per acre, I am doing very well. That would mean that one acre of alfalfa is worth two and one-half acres of corn, and if I didn't get more than 50 bushels (and the average is not 50 bushels in our county) then one acre of alfalfa is equal to four acres of corn. There is an incentive in growing alfalfa."—Farm Home.

COLOR IN HORSES.

While there are a few questionable cases, most evidence shows that chestnut always breeds true. Out of 1,834 cases of chestnut to chestnut matings, says a writer in the Breeder's Gazette, 16 are reported as other than chestnut or less than 1 per cent. Since there are nearly 2 per cent of errors in the sources of information from which these figures are derived, the 16 cases are bay, brown and black.

The commonest color of a colt at birth is a bay or rusty black, and recording before the colt coat is shed admits many errors. Furthermore, the confounding of dark chestnuts with browns or bays is not infrequent. Bays differ from chestnuts in having black pigment in the skin, eye, mane tail and lower limbs, or compared with the blacks, one may say that the black

"SHOEING HORSES"

This book is out of print, no more copies can be issued. Those on hand are for sale at \$1.00 per copy, mailed postage paid. Book copyrighted.

RICHARD BOYLSTON HALL, Author
40 State Street, Room 43, Boston, Mass.



pigment is restricted to these parts of the body.

The factor that produces this restriction is hereditary, but it only shows when black pigment is in the individual. Chestnuts may carry the restriction factor, but of course, it does not show because chestnuts have only the red-yellow pigment. Browns and bays are much alike and seem to behave the same in heredity.

It seems probably that browns are bays in which dappling is present, or in which the restriction of the black pigment from the hairs is not so great. The first kind of brown is dominant to bay in crossing, the second is recessive. In considering their method of inheritance, because of the confusion of these three types, they will be referred to as one group.

When pure blacks are crossed to chestnuts, we should get either blacks or browns and bays. Blacks will appear if the chestnut animal does not carry the factor that restricts the black to the extremities, while bays and browns come if the chestnut animal does have the restriction. If the blacks are not pure, then half of the offspring will be chestnut and the other half black or bay and brown.

This permits bays and browns to be bred to produce blacks, bays and browns, or chestnuts, as they are dominant to black and chestnut. In the figures, collected they produced 678 bays and browns, 391 blacks, and 11 chestnuts. Blacks to blacks produced 505 blacks and 46 chestnuts, with 11 classed as browns.

The possibility of recording before the colt shed its first coat, and the mistaking of faded blacks for browns, will account for these 17 browns which theoretically should not appear. Crossing between any two of the classes should and does produce all three colors.

The important point is that the transmission of color is not the function of the animal wearing it, but rather the function of the color itself. Pure blacks to chestnut always gives offspring with black pigment, whether bays, browns or blacks.

Pure bay or brown to pure black always gives bay or brown. Binges, the famous trotting stallion, never sired a black chestnut colt. He was pure for bay or brown in every sense of the word, and the color was transmitted when bred to bay and brown, black or chestnut mares.

HORSE TEMPERATURE.

The normal temperature of the horse is 98.5 degrees Fahrenheit. In the horse it is taken in the rectum; in the mare in the vagina. A clinical thermometer is sold by leading dealers in veterinary instruments that has a chain attachment, so that it is easily held in place.

When the temperature of a horse is 102 degrees F. or over, some bodily disturbance is present that needs attention. A temperature between 102 and 104 degrees denotes what is termed a low fever; above 104 the fever is high and when the temperature reaches as high as 106 or more, the horse is dangerously ill.

When a thermometer is not at hand the examiner's hand may be placed in the mouth or between the forelegs, and the temperature may be roughly noted in this way, but only a general idea of the amount of fever present may be learned in this manner, and those having horses in their care should have a clinical thermometer.

In preparation for the coming season in California 110 miles of fire lines have been built on the Sierra national forest.

PROSPECT

Secretary Abundant

In forec... we have a... messages... with hope... well away... year in the... only the... as to exis... experience... should not... conservati... times and... pected car... fullest for... When v... last June... year in the... never mor... pected car... excessive... consuming... chards, gr... age of yie... ly anticip... The soci... appli... tion, Quinc... apples, as... endeavorin... national p... notices tha... longed dro... up their h... Others co... tention to... narily and... lag spray... many larg... which we... the thirti... choice cro... repped ad... of those w... causing... prices for... tention to... In the g... if they so... profit by... ruling can... depending... thing bei... Hence tre... not be ex... showing t... for trees... was call... orchard, w... with appl... harvesting... and, loos... fall worl... Anticipa... there are... agate tre... eration w... acity and... stoms. H... been plan... would hav... Looking... the Middl... that are n... unhesitati... were bett... for an al... causes fo... traced to... late frost... The sprin... the count... year, and... peared in... poses the... winter. A... frost and... spring of... men have... available... tag smud... as there... prevailing... care of tr... evils and... always o... emergency... pressed t... will be at... of many... Hanley.

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At the American... tion in Y... pedigreed... posed of... to \$650 pe

PROSPECTS FOR AN ABUNDANT APPLE CROP MOST PROMISING.

Secretary Handly Forecasts an
Abundant Apple Crop for 1914.

In forecasting annual apple crops, we have always the desire to send messages of good cheer illumined with hope and promise, yet we are well aware that those interested every year in the outcome of orchards want only the plain unvarnished truths as to existing conditions. Past experience also reminds us that we should not be too sanguine in even conservative estimates, as there are times and seasons when the unexpected causes every one to feel its fullest force.

When we made estimates first of last June for apple crop of 1913 prospects for an abundant harvest were never more assuring, but the unexpected came in one hundred days of excessive heat and drought, with consuming effects on countless orchards, greatly reducing the percentage of yield that had been confidently anticipated, says Coopers' Journal.

The society I represent, the Mississippi Valley Apple Growers' Association, Quincy, Ill., does not buy or ship apples, as it is cultural in character, endeavoring to be of service for educational purposes. We did not fail to notice that in the trying days of prolonged drought many growers threw up their hands, quickly surrendering. Others continued to give careful attention to their trees, spraying regularly and systematically. In applying spraying mixtures of necessity many large tanks of water were used, which were gratefully absorbed by the thirsty trees, returning rewards of choice crops of fruit. Such growers reaped advantages from indifference of those whose orchards were failures, causing scarcity, which doubled prices for those giving required attention to business.

In the general course of things men, if they so will, can recover from and profit by their mistakes. But such ruling cannot be applied to fruit trees depending always upon the right thing being done at the right time. Hence trees neglected last year cannot be expected to make as good showing this year as the well cared for trees of last year. My attention was called last fall to one particular orchard, where trees were well hung with apples, but just before time for harvesting the stems became crisp, and, loosening their hold, the fruit fell worthless to the ground.

Anticipating the gales of September, there are some nurseries which propagate trees from generation to generation with a purpose of giving tenacity and holding on qualities to stems. Had the orchard referred to been planted with such trees the crop would have been saved.

Looking at orchards generally in the Middle West with the best lights that are now before us we would say, unhesitatingly, that prospects never were better than they are this year for an abundant harvest. Frequent causes for failure in the West are traced to early blooming followed by late frosts with too certain disaster. The spring season in this section of the country is unusually late this year, and the trees have not yet appeared in summer dress, which exposes them to belated inclemency of winter. Should there be unexpected frost and ice in later days of the spring of 1914 the careful orchard men have supplies of orchard heaters available or are ready to start flaming smudge fires for protectors, and, as there is evidence of an increasing prevailing tendency in taking proper care of trees, seeking remedies for all evils and a timely governing spirit, always on the alert and ready for emergencies, there is confidence expressed that the apple crop this year will be abundant, breaking the record of many previous harvests. —Jas. Hanley.

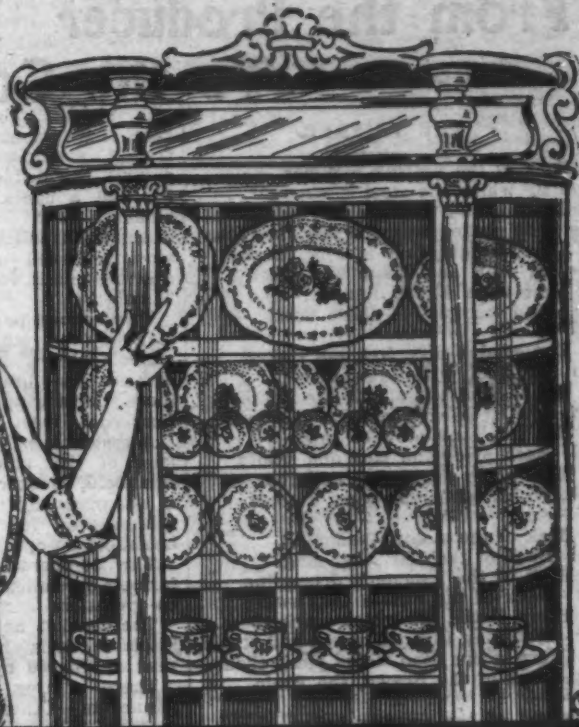
SOME STAR SELLERS.

At the sale of hogs held by the American Berkshire Breeders' Association in York, Pa., on January 24th, 48 pedigreed sows and one boar were disposed of, ranging in price from \$35 to \$650 per head.

FREE

33 PIECE DINNER SET AND 41 EXTRA PRESENTS

74 ARTICLES ABSOLUTELY FREE



I Want to Send You This Dinner Set

Our plan for distributing these dinner sets is very, very easy. You don't have to send us a penny of your money, and the little kindness we ask of you can be done during your spare time, when you are visiting your neighbors.

Here's What You Get.

The complete set of dishes contains 33 pieces.

- 6 Dinner Plates.
- 6 Saucers.
- 6 Cups.
- 6 Butter Dishes.
- 6 Cereal or Fruit Dishes.
- 1 Large Meat Platter.
- 1 Large Cake or Bread Plate.
- 1 Deep Vegetable Dish.

Famous Rose Decoration.

The beautiful, dainty American Beauty Rose decoration is the most popular design ever offered our readers. The bright red roses and the rich green foliage stand out clear and brilliant in the center of each piece, and to make the effect even more charming a rich gold border of gold is run around the edge of each dish, thus giving the complete set an individuality and attractiveness not found in other dinner sets.

Will Last For Years.

The dishes are made of pure white ware, and are for hard usage as well as beauty. They are stronger and bigger than most dishes and with ordinary care will last for years. They will not glaze or get streaky like most dishes and the rose and gold decoration is burnt into each piece and will not wear off.

You could not wish for a more complete set of dishes than this—33 pieces.

Made by a Famous Pottery.

Any woman will be proud of our famous American Beauty Rose set which is complete and beautiful. They are for every-day usage as well as for Sundays, and are the product of the famous Owen China Company, of Minerva, Ohio. We guarantee them to be genuine Owen Chinaware.

OUR EASY OFFER

The coupon starts everything. Sign it and we will send you a large illustration in colors, showing this beautiful Dinner Set with its handsome decorations of red, green and gold.

We will also send you a sample needle case, containing 100 different needles for every purpose, and 15 darning, bodkins and large needles—a total of 115 needles.

Our Dish Plan Is So Very Easy.

When you get this handsome needle case I want you to show it to 16 of your neighbors and friends and get them to hand you 25 cents each in connection with a special offer I will tell you about when I send you your needle case. When you tell them about our great offer they will thank you for the opportunity to help you. Each person who hands you 25 cents is entitled to a complete case of these famous needles. I will send the needle cases to you so you can hand them to your friends when you tell them about our offer. In addition to the needle case each person also gets a special subscription to our big farm paper.

You Will Be Surprised.

You will be surprised how very, very easy it is to get this set of dishes. No previous experience is necessary. When you get your dinner set you will be delighted and all your friends will envy you.

It is so very easy to get this set of dishes that many of our readers earn two, three and even more sets, and sell the extra sets to their friends at a big profit. Now, if you haven't already signed the coupon below, do so before you forget about it.

Sign the coupon—it starts everything.

41 EXTRA ARTICLES FREE

Our plan is full of SURPRISES and LIGHTS for those of our friends who are willing to lend a helping hand at spare times.

The very first letter you get from us will surprise you before you open it. It will also delight you by telling all about the big 40 piece post card collection which we want to give you in addition to the dishes. We give you the 40 post cards for being prompt.

These beautiful post cards will not only please you—but they are so rare and attractive and printed in such a gorgeous array of colors that you will be delightfully surprised.

Another Present for Promptness.

And still, THAT is not all. One of the prettiest surprises of all is kept a secret until the day you get the dishes and find a pretty present that you know nothing about.

Isn't this a fascinating idea?

And what makes it more so is that we have something nice for everyone of your friends and neighbors, too. We'll tell you ALL about it as soon as we receive the coupon with your name on it.

The coupon starts the whole thing—Sign it before you forget it.

Mail This Coupon Today

Colman's Rural World,
St. Louis, Mo.

I want to get a 33 piece dinner set and the 41 extra gifts. Send me the sample needle case, picture of the dishes in color, and tell me all about your big offer.

Name

P. O.

R. F. D. State

From the Producer To the Consumer

THE THINKER.

Back of the beating hammer,
By which the steel is wrought,
Back of the workshop's clamor,
The seeker may find the Thought.
The Thought that is ever master
Of iron and steam and steel,
That rises above disaster,
And tramples it under heel!

The drudge may fret and tinker
Or labor with dusty blows,
But back of him stands the Thinker,
The clear-eyed man who knows;
For into each plow or saber
Each piece and part and whole,
Must go to the Brains of Labor
Which gives the work a soul!

Back of the motor's humming,
Back of the belts that sing,
Back of the hammer's drumming,
Back of the cranes that swing,
There is the eye which scans them,
Watching through stress and strain,
There is the Mind which plans them—
Back of the Brawn, the Brain.

Might of the roaring boiler,
Force of the engine's thrust,
Strength of the sweating toiler,
Greatly in these we trust,
But back of them stands the Schemer,
The Thinker who drives them
through,
Back of the Job—the Dreamer
Who's making the dream come true!
—Berton Braley, in the American
Magazine.

CO-OPERATIVE LIVE STOCK MARKETS.

(Given by W. H. Tomhave, Professor of Animal Husbandry, Pennsylvania State College—Only part here given.)
Editor Rural World:—One of the great problems confronting the American people today is the question of its future meat supply.

Since 1900 the United States population has increased 26 per cent, while beef supply has increased 20 per cent. The slaughter of veal calves has increased in the same time 600 per cent.

The old system of marketing stock through local buyers must give way to more modern and progressive co-operative methods.

Rural communities have long felt the need of co-operative marketing of live stock.

What the co-operative creameries have done for the dairy industry the co-operative method can do for the meat-producing industry.

How to organize a Co-operative Live Stock Association.

To organize a live stock association requires no capital. It is only necessary to adopt a constitution and a set of by-laws, and elect a board of directors, who will appoint a manager to handle the business. The success or failure of the enterprise depends to a large measure on the manager. He must be up-to-date, honest and energetic, one who has a good knowledge of live stock and also has a general knowledge of business. He should give a good bond.

The manager ships when he has enough to make a car load. They try to ship the fore part of the week.

Roman numerals are clipped with a pair of small shears on the right hip of cattle and veal calves. A record is kept of each man's number. Sheep are marked in the head with colored removable paints. The hogs are numbered or marked, but classified according to weight and quality.

The commission man reports the weight and prices received for all animals by their number. It requires additional bookkeeping, but all commission men are willing to do this work for the increased patronage.

It is not necessary to accompany the stock unless the manager desires to do so.

No payment is made by the manager when stock is delivered, but each patron waits until the payment for the stock has been made. He then receives a statement, showing how much each animal weighed and the price received per pound. The pro-

rata share of expense incurred for freight, commission and other incidentals are deducted with manager's fee and a check mailed to him for balance.

Any bank will loan money when the stock is loaded to individuals; in this case the check would be mailed to the bank.

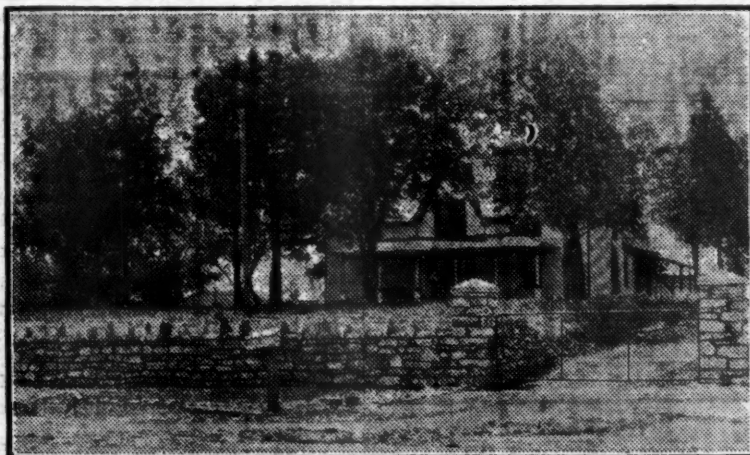
Two cents a pound is set aside as a sinking fund, which is to cover any unavoidable expense, and acts as insurance on future shipments so if there should happen a loss the sinking fund could meet it.

A typical type of the success of this kind of live stock marketing is at Litchfield, Meeker county, Minnesota. It was organized in 1908.

Last year 700 farmers patronized Litchfield co-operative market. The co-operative market draws farmers for miles to get advantage of co-operation.

The market netted the farmers at Litchfield, it is claimed, a saving last year of \$10,000 by co-operation.

There is over 40 such markets in Minnesota. Other states having such



AN IDEAL COUNTRY HOME.

markets are Pennsylvania, Iowa, Wisconsin.

VIRGIL I. WIRT.

Farmers' Equity Union Exchanges would do well to put this movement in force at their exchange as it will aid them when they place in their central packing houses.

CO-OPERATION AS ORGANIZED LABOR SEES IT.

President John H. Walker of the Illinois Federation of Labor delivered an address before the joint meeting of the Second National Conference on Marketing and Farm Credits and the Western Economic Society. He said in part:

Co-operative marketing, from organized labor's point of view, not only affects the producer, but the consumer as well. And while there is no intent on the part of either the producer or consumer to do any injustice to the middle men, manufacturers, wholesale men, commission men and jobbers, transportation or terminal corporations, still, as compared with the present situation, if we provide for only allowing these men and institutions what they are justly entitled to, what their labor service to the consumer and producer is actually worth—and that is all they are entitled to—their income is going to be affected adversely, even more seriously than the producers' and consumers' income is increased. For co-operative marketing, if provided for and established, cannot help but mean the establishment of co-operative wholesale and manufacturing departments, as well as a consumers' department. And with the powers of all three of these associations used as intelligently and effectively as possible to prevent themselves from being exploited unjustly from any other source or agency, that is what the result will be.

Organized labor is in favor of co-operative marketing by the producers, because that means eliminating the uncertainty of selling their product

and the establishing of a reasonable and uniform price for that product. In the very nature of things, when a price is established by that process by the producers (the actual workers themselves), the relationship of the real value of the cost of production will be a factor in establishing that price, rather than how much can we gouge out of it as at present. Organized labor, however, goes farther than this. We believe that in order to assure no one being done an injustice, guaranteeing the impossibility of any one being taken advantage of, that the consumers should be part of that co-operative marketing association. We believe this is perfectly reasonable and logical because every producer is in addition a consumer. In fact, each producer is generally restricted to a very few articles as producers, while the same individuals are all consumers in a much greater degree; and if the producers as well as the consumers are all in one association, they would be much more apt to fix just rates. In fact self interest will not permit of their allowing an unreasonable price to be fixed for any particular phase of the whole transaction.

As it is today, the producers where unorganized are being compelled to sell their products to the wholesale buyers and commission men at whatever prices the middle men may decide

Everybody Buying STEEL Shingles!

All over the country men are tearing off wood, prepared paper, tin and galvanized roofs. Nailing on "Tightcote" S-T-E-E-L. For only "Tightcote" STEEL can be rot-proof, fire-proof and rust-proof. It had to come, for this is the Age of Steel.

Cheaper, Too!

Curiously enough, Steel shingles, as we sell them, direct from factory to user, are now cheaper than wood.

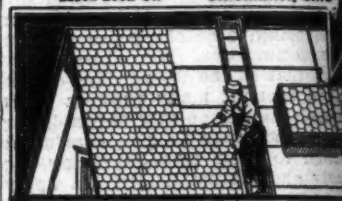
And easier put on. Instead of nailing one at a time, these shingles go on in the clusters—100 or more at once. No extra needed. No special tools. No expert workmen. No painting required. Yet practically no wear-out to an Edwards Steel Roof.

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Ordinary metal roofing rusts. This doesn't. For we invented a method which, applied to Open Hearth Steel, absolutely prevents rust from getting started. Called The "Edwards Tightcote Process." It does the work like magic, as 12,000 users are glad to testify.

Edwards' Offer We not only sell direct, but pay the freight. No such roofing has been offered before. Just send Postal for Roof Book No. 12367. Then see if you ever before saw such price and such quality. Please give size of roof, if you can.

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EXTRAORDINARY OFFER—30 days free trial on this finest of bicycles—the "Ranger." We will ship it to you on approval, freight prepaid, without a cent deposit in advance. This offer is absolutely genuine.

WRITE TODAY for our big catalog showing our full line of bicycles for men and women, boys and girls at prices never before equalled for like quality. It is a cyclopedia of bicycles, sundries and useful bicycle information. It's free.

TIRES, COASTER-BRAKE rear wheels, lamp tubes, lamps, cyclometers, equipment and parts for all bicycles at special low prices. A limited number of second hand bicycles taken in trade will be closed out at once, at \$3 to \$8 each.

RIDER AGENTS wanted in each town to ride and exhibit a sample 1914 model "Ranger" furnished by us. It costs you nothing to learn what we offer you and how we can do it. You will be astonished and convinced. Do not buy a bicycle, tires or sundries until you get our catalog and new special offers. Write today.

MEAD CYCLE CO., Dept. N-70 CHICAGO, ILL.

these matters directly in charge themselves.

We know that if we have our real producers' co-operative association, which will take in practically every real worker, handling the life of different phases of our industrial life in an intelligent and civilized way, that instead of four-fifths of the price that the consumer pays for the average product going into the hands of middle men who care nothing about the relative value of what their services really are worth, as compared with the amount of money they get out of it, and whose only concern is to get the greatest amount of money out of it, with the least possible work for themselves, that we will establish a condition which will enable the producer to get the actual value of his services in the production of any article. The workers who act in the different capacities between him and the consumer will be reduced to the minimum consistent with the labor required, and while they will get every penny they are entitled to for their services, they will not get any more. The result will be that the consumer will then be able to get the article at a much reduced rate as compared with the present, and at the same time pay the producer and the honest, legitimate medium of exchange that does the work much better prices than they are getting at the present time. This will make for a better and fuller life for every worker in the nation. Its influence will be felt in minimizing hypocrisy and downright stealing. It will make for a better people and will go a long way towards eliminating the most corrupting influence in our governmental life today, and will do more actually to establish peace and harmony in indus-

trial life than anything that could be done in our time.

FARMERS ARE CAUSE OF HIGH COST OF LIVING.

Ignorance and inefficiency among the country's farmers, rather than big business, make up the fundamental cause of the high cost of living. Frank A. Vanderlip, president of the National City bank declared at a dinner of the American Cotton Manufacturers' association here recently. Land is being utilized with but 40 per cent of efficiency, yet the farmer is not held culpable—he is not answerable to society, Mr. Vanderlip said, as is the railroad manager who produces anything less than 100 per cent.

Mr. Vanderlip deprecated what he alluded to as the increasing bonds of hampering regulations under which business is being placed by law. As a means of obtaining relief for what he said is an existing business depression, he urged a campaign of education to have public opinion based on "correct economic principles."

"We are today a nation grown critical of business methods and resentful of business accomplishments," Mr. Vanderlip said. "By far the greater part of government energies are related to business, are directed toward destruction rather than constructive and creative ends."

"Farmers and planters owe something to society in the way of intelligently conducting their business. They hold the means of production in their control. The public interest and the common good demand that they exercise the trust with intelligence, efficiency and thrift, quite as rightly as does public opinion demand efficiency and honesty and business administration."

WHY NOT HAVE MORE PROFIT-TAKERS?

Editor Rural World:—If all the farmers were in America and all the consumers in Germany, which country would need the most middlemen?

If all the farmers were in America and all the consumers in Germany, would it be wise for middlemen to have full control of ship lines?

If you wish anything done right, who is the best person to get to do it. (Your own manager or middlemen management with their full control?)

The middlemen sometimes tell you they can buy cheaper than you. Why? Why does a coal mine like to take a deal of several train loads?

Why is the coal dealer so against a deal? Why does consumer like to see the plan of direct selling?

What could keep business from growing when the people once fully understand the simple plan of direct from farm, factory, mill, and mine?

Which is the most honorable—people's managers or the people's profit-takers?

If you had a carload of eggs to sell, would you sell them at the "country crossroad"?

Do you believe in co-operation?

Which is the most honorable farmer; the one who sees and knows how his produce gets to consumer or the farmer who leaves it all to the middlemen?

If you had to sell below cost of production, would you rather sell to middlemen or consumer?

How many of us think leaving so much to the middlemen is making the world better?

Why do middlemen rather be middlemen than producers?

Does it look like a middleman would have as much at stake as the people's manager?

Do you want to see the people greater and stronger?

If every co-operator yet in 1914 gets one more co-operator, won't that help greatly?

Don't you think it would be wise to pass your Rural World along for others to read?

If you have a friend living in another county or state, don't you think it would be wise to send him a sample copy of the Rural World?

Don't you think it wise and wouldn't it pay to talk organization everywhere you go?

Don't you think the stronger organization becomes the more good

you will receive?

Don't you think organization stands for all, and all for you?

Do you believe in organization and co-operation, for the good of all?

Don't you believe organization must be going at your place before you will receive your just dues?

Do you know of anything that costs as little as organization that will do as much?

Do you think it your duty to push organization?

Don't you believe it wiser to support organization than to support middlemen with 60 cents of every dollar you make?

I will say that middlemen are only valuable where the people will not do business themselves.

And I will also say that middlemen are doing more to hinder progress among the people than all other things combined. They are not doing so fairly, but unfairly.

Organization stands for justice to producer.

What else could any moral man stand for himself?

VIRGIL WIRT.

Virden, Ill.

HOW FARMERS WILL GAIN.

Some Effects of the Keokuk Dam on Agriculture Pointed Out by a Speaker Before an Engineering Society.

While a glacier some millions of years ago made the building of the Keokuk dam possible by changing the conditions in the Mississippi river, it is the Middle West farmer which makes it possible as a commercial proposition, says a recent speaker at a state convention of engineers.

The quantity of electric power which can be developed is too large for any greater part of it to be used in city public utilities, like lighting and street railways. Unlike the waterpower in the far west, this Keokuk waterpower is developed chiefly for manufacturing—and how manufacturing is dependent on agriculture was one of the topics discussed before the engineers at their convention at Council Bluffs.

A study of manufacturing in Europe, where things are old enough to have settled down on a permanent basis, shows that manufacturing has finally moved into the fertile agricultural valleys. The sustenance of the factory workmen and their families is a controlling factor in all manufacturing. Factories move into agricultural districts to get the workmen closer to the eatable products of the farms where the cost of living is lower. The freight on food transported any considerable distance from farmer to consumer is costly.

Figures collected all over the world and running through many years, said the same speaker, show that each horse-power developed by water wheels furnishes sustenance to five persons. The use of each horse-power of large installations of turbines and electric generators provides work enough in factories and other electric propelled industries to support five persons on the wages the workman received. By these figures the Keokuk waterpower will, when in full operation, furnish sustenance to a million or more people. The farms will be their prime source of food. This increased demand for food will be supplied by the farms near the new power zone along the Mississippi river. The proximity of farm to factory will cause both higher prices for products on the farms and lower prices for produce in the homes of the workmen, the benefit of short haul transportation being generally divided between producer and consumer. This will be apparent, students of economics say, not only in the market gardening that will grow up near the manufacturing cities, but it also will show in the market for wheat and corn and other staples grown on the farm. This will be the final result of a long evolution of growth in the valley.

The price of land around manufacturing cities is always high. There is no reason to deny that there will be a considerable increase of land values in the Keokuk waterpower zone from Burlington, Iowa, to St. Louis, along the Mississippi. This

will come when the operating company have had time to complete their plans for the utilization of their power in factories to be located in the various cities in Iowa, Illinois and Missouri within their sphere of influence.

A two-year-old plantation of Douglas fir on the Oregon national forest

shows 94 per cent of the trees living. Extensive plantings of young trees in Washington and Oregon are costing only \$8 an acre. Direct seeding of lodgepole pine has been successful without exception on the Arapaho national forest, Colorado. Several of the areas sown two and three years ago show from 5,000 to 10,000 seedlings per acre.

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Blackbrier—Highgrade
Cantine—Semi-Highgrade

From our Illinois mines—Now used by many branches of the Farmers' Equity Union in the different States.

Reference: Mr. C. O. Drayton, National President Farmers' Equity Union. For prices, freight rates and any desired information, write to us.

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EVERY mail-order man, every dealer, every jobber, every manufacturer selling to farmers—all of you go to Toronto in June and find out just what this "Truth" Emblem means in your business and to your customers.

The farm papers started the "Square Deal" movement—today the Associated Advertising Clubs, with over 10,000 members, are putting every resource at command in building still greater confidence in all advertising. If you make or sell, you should go to the Tenth Annual Convention at

TORONTO

June 21-25, 1914

At this Convention you will hear the problems of distribution, merchandising, salesmanship and advertising discussed by able and successful business men, in a series of open meetings. More than this you will see, in dozens of exhibits, just how others have overcome the same difficulties that confront you—you will find definite suggestions for your business. These meetings and exhibits will thus cover the questions of chief interest to the 10,000 business men comprising the 140 clubs of the A. A. C. of A.—your own problems included.

Edward Mott Woolley, the famous writer on business topics, has written a booklet entitled, "The Story of Toronto." This describes in a forceful, intensely interesting manner, the wonderful work the A. A. C. of A. are doing for clean advertising and square business methods, and the significance and importance of the Toronto Convention. This booklet will be sent free to all business men asking for it on their business stationery—together with detailed facts as to the convention program and rates for accommodations.

Address Convention Bureau

Associated Advertising Clubs of America

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For Any Size You Need Direct From Our Factory



Any ten-year-old boy or girl can run the New Butterfly Separator with perfect ease.

No need to be without a cream separator any longer. The price you get for only 8 pounds of butter now puts one of these big, fine, life-time guaranteed separators on your farm. You buy direct from the manufacturer and save half. You pay no interest—no extras. You have the use of this big labor-saving machine while it is earning its own cost and more. You don't risk a single penny. We pay the freight both ways if the separator fails to please you. If satisfied you pay our low factory-to-farm price in small easy installments of only \$2 a month and up out of the extra cream profits which the machine will save for you. In this way you don't feel the cost at all. If you will fill out the coupon below we will give you the benefit of an extra special offer whereby you will also save one-half of the usual first payment. Send today.



The New Butterfly is the simplest of all cream separators. Has no complicated discs to wash. One-piece skimming device is made of aluminum. Quickly and easily washed.

\$24 Buys the No. 2 Junior Butterfly

The greatest cream separator value ever offered. Light-running, easy-cleaning, close-skimming, durable. Material and workmanship guaranteed a lifetime. A machine that will skim 95 quarts of milk per hour and get all the cream. Free Catalog Folder shows four larger sizes up to the No. 5; shown here. All sold on easy payment terms of only \$2 down—30 days' free trial and one year to pay. No matter how many cows you keep you can get a machine to suit your needs on these easy terms and let the machine earn its own payments before they are due.

No Interest—No Extras

The price we print is the price you pay. There are no extras—no interest. For example, the price of the No. 2 Junior is \$24. For this you pay only \$2 down then \$2 a month for 11 months. The machine comes to you ready to run and safe delivery guaranteed.

30 Days' Trial—Life-time Guarantee

To prove to your entire satisfaction before you pay that the New Butterfly is the separator you want we give you a whole month's use of the machine on your own farm. If for any reason you are not satisfied you can return it at our expense and we will refund your money together with any freight charges you paid. If you decide to keep the separator we will send you a signed life-time guarantee against breakage caused by defects in either material or workmanship.

Get Our Extra Special Offer SEND The Coupon—SAVE a Dollar

For a limited time we are offering to pay one-half of the first payment down on any New Butterfly Cream Separator you select. By accepting this special offer you obtain any size machine we make for only \$1 down (instead of \$2) and have a whole year to pay the balance of our low factory-to-farm price. Big Free Catalog Folder illustrates all sizes—explains this great offer. If you need a cream separator don't miss this opportunity to get one direct from the factory on terms so easy the machine itself will earn its own cost and more before you pay. Fill out the coupon—send today.



A Thirty Days Free Trial on your own farm will convince you that for light running, perfect skimming, easy cleaning and convenience the New Butterfly can't be surpassed.

NEW BUTTERFLY Cream Separators

are made in our big Chicago Factory by skilled American workmen. We carry a complete stock of repair parts at all times enabling us to make shipment within 24 hours after order is received. There is no waiting for repairs to come from a distance—no quibbling with local agents at home. Our life time guarantee insures New Butterfly purchasers the best service any manufacturer can possibly give.

Read What These NEW BUTTERFLY Users Say:

Dear Sirs:—The separator skims to perfection, is easy turning, and the skimming device is the easiest cleaning I ever saw. At home we used the.....and the.....but neither one of these high priced machines gave the satisfaction your machine does. I have had several of my friends look at it and they were all highly pleased. Very truly yours, JOE D. WEBBINGER, Le Mars, Ia.

Gentlemen:—My cream separator is giving perfect satisfaction in its work, and as for ease of cleaning, truly I think it can hardly be beat. Yours most kindly, JACOB S. ZIGLER, Gateswood, W. Va.

Dear Sirs:—Your separator runs easier than any other machine that I have ever handled and think that you can well afford to give anyone thirty days' free trial. We think it is fine. Truly, H. E. McMURRAY, North Vernon, Ind.

Dear Sirs:—We have used our machine now 8 years, and could not think of getting along without it. Very truly, J. S. BARTH, Urich, Mo.

Sirs:—We have had two other kinds of separators and yours is the best of all. W. H. FULLEN, Macomb, Ohio.

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Gentlemen:—
Without obligation on my part, please mail me FREE Catalog Folder of New Butterfly Cream Separators and your special "Dollar-saving" offer.

I keepCOWS.

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